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OBSTETRICS YESTERDAY AND TODAY

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This year the American Medical Association, as you know, is celebrating the one hundredth anniversary of its organization. This year, by a coincidence, also marks a milestone in obstetrics which is far more dramatic than the organization of American physicians into an association. It was in 1847 that a 29 year old physician, by the name Ignaz Philipp Semmelweis, threw a bomb-shell into the camp of his learned Viennese colleagues in the form of an unorthodox theory regarding the etiology of puerperal sepsis.

With youthful abandon, as though he were actually in possession of experimental proof, he declared that the staggering mortality from puerperal fever was not a matter of ill-humor or bad luck, but that the angel of death was guided to the bedside of unsuspecting mothers by doctors, nurses and hospital attendants who were carrying "decomposed, organic material" on their hands and their fingers into the delivery room. We, in America, accept freedom of thought and expression as an incontestable human right. It is not easy for us to believe that a doctor who propounds a new viewpoint on a menacing disease would suffer ridicule and contempt as a consequence. Indeed on our own shores, at the time Semmelweis was being denounced for his ideas on puerperal sepsis, Dr. Oliver Wendell Holmes on his own initiative advanced an essentially similar theory regarding the cause of the disease. There were many who rejected his philosophy, but Dr. Holmes' status as a great clinician remained unaltered. Semmelweis succumbed to the humiliation. It may be said that he died a martyr, if not to science itself, to a principle which ultimately proved his greatness. For, with acceptance of the cause of puerperal sepsis, we see the dawn of a new era in obstetrics. From an appalling mortality rate, due to infection in childbed prior to 1847, today we consider even a single death from this source as a most unfortunate phenomenon. We not only explain and

apologize, but indeed we make a most thorough effort to determine if and how we were amiss in our aseptic technic. Add to this the modern use of antibiotic and chemotherapeutic agents and you arrive at the conclusion that child bearing from the infectious viewpoint has become safe indeed.

Analgesia and Anesthesia

There is a biblical exhortation in Genesis 3 which for centuries kept women in terror at the prospect of childbirth. "Unto the woman He (The Lord) said 'I will multiply thy pain and thy travail: in pain thou shalt bring forth children' . . ." Without in any manner contesting the word of the Good Book, we are nevertheless faced with a body of knowledge which progressively tends to reduce the punitive measures originated through Mother Eve for her indulgence in the Forbidden Fruit. Or shall we say that in the eons of our past, sufficient penance had been done by her descendants to atone for the original sin, and therefore the woman of today is entitled to painless childbirth? I suggest that we assign such judgment to the theologian and the philosopher. As physicians we are more concerned with the comfort of our patients than the fundamentalist concepts of biblical interpretations.

So far as we know Sir James Simpson was the first practitioner to use ether in obstetrics. To what extent or to what degree the anesthetic was employed is not too clear, but Simpson advised ether for the relief of pain soon after the anesthetic came into use in surgery. Incidentally, he was also the first to establish and become the head of the Department of Midwifery at the University of Edinburgh.¹ It was not the coveted post it is considered today, for, as you know, most of the physicians of that era looked upon this field of practice rather disdainfully.

In discussing analgesia and anesthesia in obstetrics, I hasten to endorse the general belief among my colleagues that the ideal agent in this field has not yet been discovered. To meet optimum requirements such a drug must be safe for both mother and baby; it should do no harm to

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either, should be prompt in its action, and should not require time-consuming attention of a trained staff for its administration. In the present state of our knowledge we should not promise total relief from pain in childbirth. All a conscientious obstetrician can do is repeatedly reassure the patient during her prenatal visits that everything possible will be done to carry her through labor with a maximum of comfort to herself and the highest degree of safety to her baby. It is a sad reflection on female psychology to find so many women who have borne children thrive on uncertainties and anxieties they impart to their younger and less experienced friends and relatives as a result of thoughtlessness as well as groundless remarks concerning pregnancy and delivery. Once the doctor, through frank and honest discussion, has gained the confidence of his patient, he will have no difficulty in obtaining the cooperation necessary to success.

The subject of analgesia makes one of the most interesting chapters in the history of obstetrics. The most spectacular phase to my mind was the old "Twilight sleep." I feel certain that many of us can recall the dramatic performance of our patients under the influence of scopolamine, the "battle royal" in which we participated until we finally got the excited patient under ether, and following a wild delivery, the heroic effort it took to resuscitate the blue baby. In the light of what we know today about anoxia we cannot escape the conclusion that twilight sleep as an analgesic was as unsafe as it was ineffective. What little alleviation there was from pain during labor was the result of the morphine which accompanied the scopolamine, and morphine in doses given under the old procedure is now considered unthinkable from the standpoint of safety to the infant and the mother. The present use of scopolamine combined with barbiturates is an improvement over the previous method, but the danger of asphyxia to the baby remains.

Rectal anesthesia² is preferred by some, but the results lack uniformity. In some cases it fails because of improper administration of the drug, in others because the rate and speed of absorption is difficult to predict. Paraldehyde has recently gained popularity. Given by mouth it has a most disagreeable taste and odor. Administered by rectum it is subject to the uncertainties I have just mentioned.

Intravenous analgesia, using such barbiturates as pentothal sodium, thus far has not proved successful. Its action is too short to be satisfactory in labor. Inhalation anesthesia as now used during first and second stages of labor has its dis-

advantages. It requires prolonged services of an experienced anesthetist. It is also an expensive method. Saddle block anesthesia has a wide range of safety when properly administered in the latter part of the second stage, but it requires a trained anesthetist, and is therefore not universally adaptable. Caudal anesthesia has been revived since the improved, continuous method has come into vogue. This method of relieving pain has a definite place in obstetrics, but good results depend upon a trained staff. Here, too, the results are not uniform. Hingson and Edwards,³ who have reported the largest number of cases in this category, report a maternal mortality of 1 in 1400. Cook County Hospital⁴ discontinued caudal anesthesia because of a maternal death in their nine hundred sixty-fourth patient. And this occurred under caudal anesthesia administered by experts!

From what has been said it should be evident that in spite of periodic ballyhoo in the lay press and the honest but at times over-enthusiastic opinions in the medical literature, each method of producing analgesia, anesthesia or amnesia has failed thus far to meet the requirements of an ideal agent. In my opinion today (and I reserve the right to change it if something better appears on the horizon) a combination of demerol with scopolamine comes closest to the desired amnesic and analgesic goal in this field. It is simple to administer, it is safe for the mother and the baby and it controls pain without delaying progress. There are no deaths reported from its use.

The technic is as follows: When labor pains have become established with discomfort from which the patient asks to be relieved, 50 mg. of demerol and 1/150 gr. of scopolamine are slowly (2-3 minutes) injected intravenously and 50 mg. of demerol is given intramuscularly. Analgesia and amnesia follow almost instantly. Additional demerol is given if the patient becomes wakeful between pains and talks *coherently*. When dilatation of the cervix is complete and the presenting part is on the perineum, ether or cyclopropane is used to complete the second stage. If the inhalation anesthesia is not prolonged, there is very little or no asphyxia of the infant and the cry is spontaneous. I have used this method for two years and the results have been uniformly good.

Although we are far from the millenium on this problem of analgesia, we can point with justifiable pride and a mild satisfaction to our ability to reduce pain to a considerable degree, a degree to which the terror formerly associated with childbirth has been largely eliminated.

There are other spheres in which obstetrics of

today differs favorably from that of yesterday. One of the outstanding, though because of its evolutionary aspects, less noticeable phases is the constant improvement in our mechanical skills which have contributed to the material reduction of maternal and infant mortality and even more so to the lessening of morbidity.

I am not blind to the fact that even with or in spite of our better understanding of the physiology and mechanics of labor poor obstetric results may be found in every community. It is my sincere conviction, however, that the careful accoucheur can cut those unfortunate accidents down to a minimum. It is my firm belief that no physician should assume the responsibility of obstetric care without a thorough knowledge of the use of oxytocics, nor should he allow a patient with a perineal or cervical tear to leave the delivery table without a repair. If the patient's condition at the time of delivery does not permit immediate repair, secondary repair should be done later, preferably before she leaves the hospital.

I cannot dismiss our mechanical progress without a brief discussion of the important role of the obstetric forceps. During the seventeenth century and the early part of the eighteenth century the Chamberlen family designed and first made use of obstetric forceps. This step marks one of the great mechanical advances in obstetrics. The Chamberlens asserted that with their newly discovered instrument they could deliver any pregnant woman. Their optimism was only paralleled by their lack of modesty. During the next century and up to the present time obstetric forceps have been modified and improved from time to time. The forceps with the fixed lock and open fenestra had definite shortcomings. The newest obstetric forceps⁶ which has become available the past few years has a sliding lock, and the fenestra is closed on the maternal side of the blade. It has an easily attachable axis traction bar. These are safety factors which also facilitate the ease in application and removal of the forceps.

Along with this advance in the mechanics of obstetrics came the great improvement in Cesarean technic. The greatest advance was made by Snger,⁷ who in 1882 first used sutures in Cesarean sections. This, along with the advances in aseptic technic, brought about a great reduction in maternal mortality.

We have come a long way since the time Semmelweis died fighting in the cause of safer obstetrics. With aseptic technics aided by chemotherapeutic and antibiotic agents, puerperal sepsis has become a rarity. Pain in childbirth, though

not entirely conquered, has come under considerable control. Improved knowledge and better understanding of the physiology of pregnancy and the mechanics of labor has contributed greatly to the reduction of maternal and infant mortality. However, we must not become too smug in these achievements for there is yet much left to be desired. Obstetric tragedies on the maternal and fetal sides are far from eliminated. But progress, like time, is on the march, and each year brings new information, new discoveries and new concepts.

As I see it the most pressing need today is bridging the gap between what the doctor has to offer in the way of adequate obstetric care and the desire for the application of this care by the public. It is ironical that while in some spheres there is a persistent clamor for more and more medical care, in other spheres the public refuses to take advantage of facilities that are readily available. This anomaly stems from the fact that the people generally are aware only of those advances in medicine which are dramatized in the lay press and on the radio, but remain lukewarm toward the simple but less spectacular procedures which have proven themselves of greatest benefit to their welfare. As an illustration I call your attention to the fact that while many intelligent women apply for obstetric advice early in their pregnancies, many, many more still wait until late in the last trimester to consult you.

To my way of thinking we need less ballyhoo and more down to earth public information on principles of health. And the most logical agency to advance such a program is the State Health Department under the stimulus of and in cooperation with state medical societies. I have strong convictions that health education in all its phases should begin in the early grades of our public school and should become progressive in scope as the pupil advances in scholastic standing. Only through an appreciation of elementary principles of health can we expect full cooperation of the obstetric patient.

This brings us to the final point in this discussion: A woman chooses her doctor in the belief that he will give her the best care to be had in the community. She has confidence in him. It therefore becomes his duty to justify that confidence. This axiom applies to all branches of medicine, but it becomes especially dominant in obstetrics, because under proper care with the cooperation of the patient, tragedy involving two lives often can be averted. Therefore, the medical adviser's first duty to his patient is to enlist her cooperation in a program of optimum pre-

natal care. To accomplish this task effectively the doctor must himself be convinced of its full importance. A perfunctory attitude on the part of the physician is not conducive to enthusiastic acceptance of any program, and least so in the realm of prenatal care where inhibitions and self-control must be practiced by the patient.

What then is optimum obstetric care? It is more than just seeing the patient in the office and examining her urine on occasion, and when the time comes, delivering her. Prenatal visits to the office should stress the benefits of hygiene of pregnancy and the progress of the fetus. Emphasis must be laid on the various maternal factors which aid in the development of the new organism. Good prenatal care includes a complete examination of the patient with records of weight, height, blood pressure, urine and blood tests including Rh factor determination. Even a slight deviation from the normal calls for strict evaluation of cause and in any event must be considered a potential if not an immediate handicap to normal progress. In my practice patients in good health present themselves at monthly intervals the first seven months and from then on twice each month. I need not dwell on the quality or extent of these follow-up examinations.

Good obstetric care prior to delivery involves the elimination, insofar as they lend themselves to elimination, of all undesirable factors which potentially menace the welfare of the patient. One of the most frequent correctable defects which pregnant women present is tooth decay, and all too often abscessed teeth as well. As you know, there are many superstitions and erroneous beliefs among lay people concerning teeth. Unfortunately, too many physicians and dentists adhere to the antiquated dictum "for every child a tooth," in spite of the fact that the calcium in the teeth is fixed and cannot be absorbed by the blood to deposit it in the tissues of the fetus. Another mistaken impression too frequently aided and encouraged by doctors and dentists is that it is dangerous to have carious teeth filled or abscessed ones extracted during pregnancy. The fact is that women are too often inclined to neglect their teeth prior to and during pregnancy and then acquire marked caries as a result of this neglect.⁸ The ultimate effects of these foci of infection are too well known to require further elaboration.

One of the most significant advances in connection with prenatal care is our improved knowledge of nutrition and the effects of overweight on pregnancy. I have seen women who not only believe in, but diligently practice the old saying that a pregnant woman has to eat for two, and judging

from the results some of them must feel that they carry quintuplets. Only last month one of these enthusiasts who came to me during her eighth month of gestation had gained not less than 65 pounds since the discovery of her pregnancy and delivered a baby weighing 11½ pounds. If over-eating resulted in overweight babies alone, the problem would be only that of difficult labor. Unfortunately, there are other, and indeed, more dangerous implications,

In all of the reports of pregnancies I have examined, toxemia occurred in about 4 per cent of the patients who gained 18 pounds or over. For the past several years I have been using a high protein, low calorie diet on all my patients. In 1946 I reported a series of 1,000 cases of women who followed this weight control program throughout their pregnancies. All were delivered without a death or a single instance of toxemia, pre-eclampsia or eclampsia. In no patient did the blood pressure exceed 145/85. Edema was a negligible factor throughout the series. The fetal mortality in this series of diet controlled cases was just one-third of the mortality rate reported in accepted standard statistics. There were no large babies.

These results were attained through a regimen which calls for a maximum gain of a total of 16 pounds throughout the entire period of pregnancy. It calls for a high protein, low calorie diet supplemented by iron, calcium and a liberal allowance of vitamins. Thyroid extract is given to all patients who can tolerate it. Every patient with a pulse rate below 70, regardless of the basal metabolic rate, is given small daily doses of dessicated thyroid. The dose is increased every fifth day until there is indication of excessive dosage, when it is discontinued for four days. On the fifth day dessicated thyroid is again started in dosage equal to the last daily dose which did not disturb the patient.

A recent case will illustrate the help that properly administered thyroid may afford. A 34 year old woman weighing 185 pounds with a height of 65 inches appeared sluggish both mentally and physically. She had been married nine years and had had two pregnancies ending in spontaneous abortion. Information obtained in previous examinations was practically negative. My examination gave no new light except her BMR was plus seven, pulse 52. She had been given two similar reports by other doctors. Thyroid was ordered in accordance with my routine directions. She returned to the office ten weeks later, two months pregnant. She was mentally alert and in excellent physical condition. She was taking des-

sicated thyroid, grains 7, daily. She was very happy about her pregnancy and regretted that thyroid had not been ordered by the other two doctors who saw no reason to give it because her BMR was plus 7. She carried the baby to term and had an uneventful delivery.

Now, you may ask, does this high protein-low calorie diet prevent toxemia? According to Dieckman¹⁰ "the albumin and globulin molecules are so large that they do not pass through the capillary wall. As a result they exert colloid osmotic or oncotic pressure within the capillary, thus preventing edema." Straus¹¹ writes, "If the expectant mother does not eat enough protein food, she gains excessively, but this weight consists of water or occult dropsy." Williams¹² found that "The incidence of toxemia in pregnancy was twice as great in pregnant women whose protein intake was 60 to 70 grams daily as compared with a similar group whose protein intake ranged from 110 to 120 grams."

There is another important factor which contributes greatly to the rationale of the high protein diet. You are all aware of the notorious frequency with which anemia occurs in pregnancy. You are also conscious of the importance of keeping up the blood volume during this precarious period. The administration of iron is good practice, of course. The proteins in the food, however, are invaluable. Blood is made, and worn-out blood is replaced normally by protein in the diet. The chief foods from which protein is obtained are meat, eggs, fish and vegetables, green in color. These foods are the blood making foods. Throughout the pregnancy close watch must be kept of the blood protein. Primarily its rise and fall depends on intake of animal protein by the mother. Because of the nature of their specific dynamic actions, proteins are not fattening. They are blood makers and baby builders. Nor do I need to remind you of the rationale of a low fat intake. Aside from its high caloric value and its resulting tendency to increase weight, even a slight rise in the blood cholesterol which accompanies fat metabolism is often sufficient to raise the blood pressure during pregnancy. Hypercholesterolemia has long been known for its tendency to cause arteriosclerosis.

I must warn you, however, that this is not an easy régime to carry out *even* if you, yourself, are fully convinced of its benefits. If you accept it lukewarmly you will waste your time in trying to put it into effect. In order to be successful the calorie reduction must be maintained throughout the period of pregnancy. It cannot be considered a free diet because it is definitely restricted quantitatively and to some extent qualitatively.

The caloric intake has to be low, the protein high. Women will argue, haggle with you, and at times change doctors because of your insistence on dietary limitations, but the results are worth all the effort you will make. Your task will be easier if you will take the time and patience to explain the *why* of the strict program. At least you will have carried out your side of the unwritten contract.

Our experience of yesterday and today, speaking figuratively, would be entirely worthless if we failed to put these experiences to useful purposes. I am fully confident that in the scientific sphere developments will come which will add greatly to our understanding of the problems which today appear inscrutable. I have no doubt, for example, that as we progress the primary toxemias of pregnancy, now far better understood than they were a decade ago, will some day come under adequate control and thus further reduce the maternal and infant mortality. Similarly, our improved understanding of the nature and significance of a good many other conditions, which are now unexplainable, will in time lessen the mortality and morbidity for both the mother and her offspring. Better teaching of obstetrics in the medical colleges and ample provision for postgraduate and refresher courses for practicing physicians will bring greater knowledge and result in better technique, which will reflect themselves in the doctor's office and in the delivery room.

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NONSPECIFIC GRANULOMA OF THE COLON

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A great number of articles appear in the medical journals concerning the entity granuloma of the colon. However, the occurrence of a solitary nonspecific lesion in the large bowel is rare.^{1, 3, 8}

The granulomas represent a chronic inflammatory disease involving a portion or local segment of the colon. These are classified as follows:

I. *Specific*

A. Tuberculosis

1. Hyperplastic
2. Ulcerative

B. Fungi

1. Actinomycosis
2. Blastomycosis

C. Amebiasis (Ameboma)

II. *Nonspecific*

A. Benign solitary cecal ulcer

B. Segmental ulcerative colitis

C. Foreign body

Since in the discussion of this disease the various lesions of the colon must be considered, a brief review and resume of the above listed conditions will be discussed.

Hyperplastic tuberculous granuloma is a very rare disease as a single tuberculoma of the cecum or ascending colon. It is often primary, and only in about one-third of the cases is pulmonary infection found.¹ It is rare, particularly after the age of 40 years, for Crohn and Yaries⁴ report only four cases in 4,800 autopsies, and only three cases of tuberculoma at the Graduate Hospital in Philadelphia.²

The ulcerative form is usually secondary to active pulmonary tuberculosis, and the mode is usually enterogenous. It ordinarily begins in the terminal ileum but may be located solely in the cecum.

Actinomycosis of the bowel has been reported in 62 cases; 77 per cent of the cases were in the cecum and terminal ileum, the etiologic agent being actinomyces bovis or ray fungus. However, only one case has been reported of blastomycosis involving the cecum alone. The case was cured by resection of the terminal ileum and ascending colon.¹⁰

Amebic granuloma occurs frequently in patients with amebiasis. The early lesions are confined to the mucosa, give a lacey appearance to the x-ray silhouette, and later there is coning with incomplete filling of the cecum. A persistent deformity of the cecum should always suggest amebiasis in

patients with obscure hepatitis and diarrhea. These lesions usually disappear under specific antiamebic therapy.¹¹

Benign solitary ulcer or penetrating ulcer of the cecum are rare and have been reported by Cromar, Caravati, Dixon and McMillan.^{1, 5, 6, 8} Cromar collected a series of 68 cases in the literature. The lesion occurs more commonly in males between the ages of 25 and 50. The etiology is obscure. The lesion penetrates the bowel wall in 6.5 per cent of the cases. The symptoms usually suggest acute appendicitis or penetrating malignant lesion of the ascending colon.

Occasionally a localized idiopathic ulcerative colitis has been reported involving the cecum or ascending colon. The etiology is unknown, but evidence suggests an obstructive lymphadenitis as a contributory factor.

Foreign bodies of any type, such as instruments, sponges, and ingested objects which perforate the intestine, may cause a localized inflammatory reaction, with resulting chronic granulomas.

Report of Case

Case No. 1:

This white male patient was admitted for the first time in this hospital in November, 1938, for treatment of hemorrhoids. A hemorrhoidectomy was performed. He was not in this hospital again until the present admission on Jan. 29, 1947. He stated at the time of admission that he had been entirely well until approximately one year ago, at which time he noticed that his stools were no longer formed. He stated that throughout his life he had had a slight tendency towards constipation, but in the last year this had disappeared. For the last six or eight months he had felt lethargic and had lost his appetite, and also during the same period he had had three to four spells of diarrhea, each lasting from one to three days with two to three bowel movements of watery stools each day. On frequent occasions he stated that he had passed bright red blood in his stools in quantities up to one-half ounce. He had had no symptoms from hemorrhoids since he had a hemorrhoidectomy as stated above.

Approximately eight to nine days before admission he noticed that his bowel movements became smaller in quantity and that he began having a burning in his stomach with occasional generalized abdominal cramps. At 5 p. m. one day later, he began having severe abdominal cramps which were located primarily in the right lower quadrant of the abdomen. His temperature became elevated, and from that time to the time of admission he perspired a great deal, particularly

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at night. He was seen by his local doctor one day after the onset of the severe cramps and was told that he probably didn't have appendicitis and was also told to take frequent enemas. He had three enemas that day, four the following day and three days later he had four more. The first enema gave quite satisfactory results with the passage of a few hard, small chunks of stool and a large amount of gas. Three days before admission he took an oil enema and took some mineral oil by mouth, following which he had the sensation that "something gave" in the right lower quadrant of his abdomen. The day following this he had a spontaneous bowel movement—the first for a period of 7 to 8 days.

The patient stated that he had lost weight in the last few months, and although he did not know just how much, he estimated that it was about 15 lbs.

Positive Findings:

Partial, bilateral deafness of the perception type was found to be present. There was generalized lymphadenopathy present, including the anterior and posterior cervical, axillary, and inguinal glands. The glands were nontender and were enlarged up to the size of a pea. They did not appear to be fixed to surrounding tissue and were relatively freely movable.

Physical Examination:

The patient was a rather thin, 51 year old, white male, who was lying quietly in bed and who did not appear to be in any acute distress. Oral hygiene was poor. On examination of the abdomen the solid organs were not palpable. There was slight rigidity in the lateral, right lower quadrant, and a mass, which was rather sausage shaped and which extended in an oblique direction, could be felt just superior and medial to the right anterior superior spine of the iliac bone. It measured approximately 3 inches in length by 1 inch in width. It was rounded on top and was fairly well fixed. It was quite tender to palpation. Peristaltic sounds could be heard, and the abdomen was not distended.

At the time of admission, the patient's temperature was 98.8 F. His pulse was 94 and his respirations were 18. On the second day following admission his temperature was 102 F., his pulse 96 and his respirations 20.

At the time of admission it was felt that the patient had an abscess in the right, lower abdomen and conservative therapy, consisting of hot stupes to the abdomen, penicillin, intravenous feeding with nothing by mouth, semi-Fowler's position, was instituted. By Feb. 7, 1947, the mass was still present but was much smaller and was nontender.

During the work-up of the patient, three stool examinations were taken while he was on a meat free diet, one of which was reported as negative, one as 2+ occult blood and the other as 3+ occult blood. At the time of admission his blood sodium chlorides were 500, total proteins were 6 and his NPN was 65. His urinalysis was negative. His red blood count was 4,920,000 with 14 grams of hemoglobin, and his white blood count was 20,000 with 81 per cent polymorphonuclears, 17 per cent lymphocytes, 2 per cent eosinophils, with a shift to the left. Two days later his white blood count was reported as 10,600 and the day following this it was reported as 15,400.

On Feb. 4, 1947, a barium enema revealed a deformity with narrowing of the lumen of the proximal portion of the ascending colon (fig. 1).



Fig. 1. Barium enema, filling defect, lateral wall of ascending colon.

This irregularity was more marked on the lateral aspect of the colon than on the medial. Films made before and after evacuation and by air contrast method (fig. 2) did not show the deformity as marked as when compression was used. The conclusion was that there was a definite pathologic lesion, and the suspicion was that it was probably neoplastic, if not inflammatory.

On February 6 a proctoscopy was performed.

and no pathology was noted. Also on that date a lymph node was removed from the left posterior cervical region. Pathologic examination of this lymph node showed hyperplasia. "The picture presented was very suggestive, but was not considered diagnostic of a lymphoma."

On February 10 an intravenous pyelogram was performed and the right kidney was reported as revealing a double pelvis with a fork shaped ureter



Fig. 2. Contrast enema of colon, persistent filling defect, lateral wall of ascending colon.

extending to the third lumbar vertebra. The lower pelvis and calices were reported as normal after the upper pelvis and calyx were visualized but not completely filled. No abnormalities could be seen in either calyx or in the left kidney.

On February 13 a roentgenogram of the chest revealed no abnormalities. The next day an exploratory laparotomy was performed, at which time a firm, circumscribed mass was found on the posterior-lateral wall of the ascending colon just above the cecum. There were many adhesions in this area and the appendix was rotated upon itself, and it was found that the tip of the appendix was protruding through the center of the mass described above and was plugging the hole that had existed in the mass and bowel wall. The appendix was freed and removed. A biopsy was taken of the mass and was reported as inflammatory tissue. The defect in the colon was sutured and the wound closed. The patient's postoperative course was uneventful; wound healed by primary intention.

Pathologic examination of the biopsy of the colon was reported as acute, nonspecific colitis or granuloma; that of the appendix was reported as periappendicitis, subacute, and that of the lymph nodes was reported as hyperplastic lymphadenitis.

The patient complained of a recurrence of pain in the right lower quadrant. On February 27 a resection of the terminal six inches of the ileum, cecum, and ascending colon was carried out, and a side to side transverse ileocolostomy was performed. Again, the postoperative course was uneventful.

Due to the fact that the result of the previous biopsy of the cervical lymph node was unsatisfactory, a lymph node from the right axilla was removed on March 12. This was reported as showing severe hyperplasia, consistent with but not diagnostic of an early lymphomatous change.

Blood smear taken six days later was reported as showing mild anisocytosis, with 58 per cent polys, 34 per cent lymphocytes, 7 per cent monocytes and 1 per cent eosinophils.

The pathologic report of the resected specimen dated March 11, 1947, revealed a large, firm, nodular, irregular mass of the upper cecum, measuring approximately 3 cm. in thickness, 5 cm. in width, and completely circumscribing the cecum. The cut section was yellow with small areas of hemorrhage. The section, when cut, was a pearly-gray color and had small layers of red. In the mass was a large hemorrhagic cystic area, approximately 1.5 cm. in diameter, which was well circumscribed by this grayish cartilaginous-like tissue.

The submucosal tissue was greatly thickened, whitish in color, and rubbery hard in consistency.

Microscopic examination revealed a complete loss of mucosa at the base of the depressed scarred area of the ulcer. The base of the ulcer was composed of a thick layer of chronic granulation tissue. The wall of the bowel was greatly thickened and the submucosa and muscularis throughout had been largely replaced by a few acute and many chronic inflammatory cells, hyperplastic connective tissue cells, occasional foci of hemorrhage and multinucleated giant cells. The other cells present were large mononuclears, lymphocytes, plasma cells, vacuolated cells, areas of pigment and hemorrhage. There were areas of relatively acellular necrosis.

Summary

Although this is a rare condition, nonspecific granulomas of the intestinal tract should be considered in patients presenting a palpable mass in the right lower quadrant, associated with pain, change in bowel habits, and low grade fever.

X-rays revealing a filling defect or deformity in this area of the colon should bring to mind, in addition to carcinoma, sarcoma, specific and nonspecific granulomas.

The specific etiologic agent has not been dis-

covered, despite careful and persistent effort. A low grade infection is thought to be the cause of the condition.

It is generally accepted that this nonspecific lesion should be treated by surgery consisting of resection or some type of side-tracking operation for relief of symptoms. If the mass appears irremovable, biopsy should always be made, since even at operation it is impossible to differentiate this type lesion from carcinoma.

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THORACOPLASTY IN PULMONARY TUBERCULOSIS

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It is the purpose of this presentation to provide a reorientation concerning collapse therapy in pulmonary tuberculosis.

In general, it is the family physician who establishes the diagnosis of the disease. Even though he may require special medical assistance in the procedure, it is to him that the patient turns for advice and reassurance. We could not hope for a better source for such information. Much of what we have to tell a patient must be given on faith—for we are dealing with laboratory reports that tell of acid fast organisms which we may not actually have seen, and we speak of x-ray shadows which are only interpreted to mean pulmonary tuberculosis. Similarly, the patient must accept "on faith" the diagnosis of pulmonary tuberculosis and the instructions for his future conduct and management. His physician, whom he has voluntarily sought when symptoms presented, has the patient's confidence and should be qualified to present a modern concept of treatment. If that physician can give the patient some adequate ideas

concerning the medical problem of tuberculosis, much will be gained. If, on his entrance to the sanatorium, the patient meets the same views, in slightly different form, he is already prepared to accept treatment; his confidence in his own physician is strengthened; and his introduction to the sanatorium regimen is facilitated.

Our concepts concerning collapse therapy are still changing. We believe that this development is sound and based upon factors supported both in the experimental laboratory and by careful clinical observation. In the term collapse therapy we include any procedure which has for its purpose the diminution of lung volume for control of an active tuberculous process. The objective, as is true of all therapy of tuberculosis, is to render the sputum free of tubercle bacilli and to arrest the activity of the process.

The primary indications for such treatment are the concurrence of both sputum containing tubercle bacilli and a demonstrable pulmonary cavity. It is true, however, that there are instances where collapse therapy is employed in cavitating tuberculosis when all the evidence favors a diagnosis of tuberculosis, but sputum examinations do not reveal tubercle bacilli. On the other hand, we have advised certain collapse measures for patients who have positive sputum but in whom pulmonary cavity is not revealed by the usual methods of examination. Finally, there is a third important exception: the patient who, in spite of carefully controlled rest routine, has an unstable, slowly progressive lesion, disclosed by serial x-ray studies and a persistently negative sputum. The outlook is less favorable in such an individual unless he is supported by certain collapse measures.

Assuming that the patient has the prime requisites for collapse therapy, we must then suggest the procedure most suitable for his recovery. Not long ago, it was accepted that we try the mildest type. If it were unsuccessful, we would attempt the next more serious measure, and so on until we were driven to suggest a procedure which at one time was considered very hazardous. Our present approach is rather different. Three chief factors must be evaluated and interrelated before we can reach a suitable estimate.

First, there is the patient. We must still bear in mind that we are treating an individual with pulmonary tuberculosis. We are not caring for pulmonary tuberculosis per se, nor are we trying to cure a chest x-ray film of an abnormal shadow. The general condition and age of the patient as well as his home environment and economic status must influence our decision. We must determine how closely we can approximate the ideal of sputum conversion and arrest of dis-

ease, yet allow the patient to lead a useful existence.

What have we gained, if by our technical dexterity we accomplish the first portion of our objective only to find a dyspneic, helpless patient who cannot care for himself and who, because of limited respiratory capacity is destined to an institutional existence for custodial care? What have we achieved if we control the disease so as to lengthen the patient's life, if, by so doing, we overburden the cardiac mechanism and cause it to fail years before that event would normally take place? Can we justify collapse therapy in a patient with emphysema whose respiratory reserve is already taxed? Shall we attempt to close the cavity in patients in the older age groups—the late 60's and the 70's—who have lived almost a normal life span and have achieved a biologic balance with the tuberculous disease? And what of the increased technical difficulties among such patients whose friable arteries may bleed freely—and where vascular channels close to a cavity may be broken if the size and contour of the cavity are suddenly altered? The patient is the focal point of our discussion in selecting the appropriate procedure.

Closely allied to this is the pulmonary status of the patient. Dyspnea is not necessarily a contraindication to collapse therapy. Important studies in the realm of individual bronchspirometry have revealed interesting data and confirmed certain clinical suspicions. A contracted partially fibrotic lung is not a valuable organ for exchange of gases in the respiratory process. In addition, it may have drawn the heart and mediastinal structures toward that side of the thorax, putting undue tension on the less involved lung. A surgical approach may be distinctly beneficial to such a patient, through collapse of a relatively non-respiring lung, and return of the mediastinal structures to their normal positions. The pulmonary status, in particular the effective respiratory capacity, must dictate, at least in part, the amount of collapse therapy that the patient will tolerate.

Similarly, the possible complications of any collapse measures may be foreseen by an evaluation of the type of tuberculous process to be dealt with. If the disease is highly active and the lung is "crumbling away" under the assault of rapidly multiplying tubercle bacilli, gross bronchial obstruction may result. Complete atelectasis may follow and the patient may be decidedly worse off than before. Attempts to collapse such a "hot lesion" may lead to even more rapid tissue necrosis with additional dissemination of the bacilli throughout the lungs.

We should not undertake the induction of artificial pneumothorax in such patients, lest, in addition to atelectasis and bronchial dissemination, there should develop pleural infection with a subsequent tuberculous empyema.

A third determinant in the selection of collapse therapy is the expected end result. While our primary aim is to render the patient's sputum free of bacilli through collapse of open cavity, and at the same time to preserve an effective respiratory capacity of as high degree as possible, our decision must again rest on the type of lung that will result from our effort. If an entire lung must be collapsed by artificial pneumothorax in order to control a cavity near its apex, then such a patient might be better off with thoracoplasty. If the result of artificial pneumothorax is to be a fibrotic upper lobe, which cannot be expected to re-expand, our choice should be thoracoplasty. If the entire lung is extensively diseased and cannot be returned to a normally functioning organ, we may well consider a pneumonectomy.

To recapitulate, factors determining our selection of therapy are chiefly (1) the status of the patient; (2) the character of the disease process; (3) the results to be expected from the particular measures under consideration.

In the evolution of the therapy of pulmonary tuberculosis, interruption of the phrenic nerve and introduction of air into the pleural space have had a prominent place. More recently, doubt has been developing concerning each of these procedures. We object to immobilization of the diaphragm, except temporarily, because, although it limits pulmonary expansion, it decreases the effective self-cleansing mechanism of the basal portion of the lung. Secretions may be retained in this area to the future detriment of pulmonary function. The mechanism of cough becomes somewhat paradoxical and is incapable of emptying the lung, for the abrupt diaphragmatic relaxation is an important element in the expulsive phase of cough. Our present attitude toward phrenic nerve interruption is that it may be used (1) in an indolent exudative type of process which shows little tendency to improve or may even progress on a routine rest regimen, and (2) to supplement artificial pneumothorax or pneumoperitoneum.

Artificial pneumothorax in experienced hands appears to be a simple treatment that has the advantage of being continued on an outpatient basis. If we are presented with a small cavity and a free pleural space unobstructed by even localized adhesive bands, artificial pneumothorax may well be considered. If the infection reaches the pulmonary periphery, we must be wary of the occurrence

of a tuberculous empyema—a complication which may be far more serious and difficult to control than the underlying pulmonary disease. In some instances the risk must be undertaken, as when we advise establishing a protective artificial pneumothorax on a less involved lung, before proceeding with extensive thoracoplasty on the other side.

Pneumoperitoneum, or the introduction of large quantities of air into the abdominal cavity, is indicated as a temporizing measure in cases of bilateral disease when we wish to give support to the patient over an observation period in order to determine which lung is in greater need of permanent collapse.

These are all medical types of collapse therapy. Thoracic surgery's advances have brought much hope to the tuberculous patient. Three major classes of procedures are available. (1) Primarily, there is thoracoplasty—the partial decostalization of the hemithorax in order to decrease lung volume either locally or generally. (2) Local collapse by separating manually the apical pleura from the endothoracic fascia and filling the space with (a) air—extrapleural pneumothorax, (b) paraffin, oil, or wax—plombage, or (c) more recently lucite balls. This last material is now under popular trial—for a nonirritating light-weight filler has been made available to maintain the apical space without irritation or producing sufficient pressure to cause tissue necrosis. (3) Finally, surgical extirpation of a lobe or an entire lung has been under extensive trial in recent years and some of the results are heartening.

Thoracoplasty is a permanent, irreversible form of collapse therapy. The lung volume is reduced by the removal of costal segments of varying lengths. In the past decade the procedure has reached a degree of standardization. Methods may differ, but the manner of performing the operation in stages allows for progressive decrease in pulmonary volume in the area of greatest destruction.

From the standpoint of therapy of major tuberculous lesions, thoracoplasty is a procedure of great importance. It provides a permanent collapse of a relatively limited portion of lung. The anticipated end-result is cavity closure and conversion of sputum to negative.

It is a major surgical procedure usually involving a series of three or more operative stages in as rapid succession as the patient's condition will allow. Its effectiveness in experienced hands with suitable selection of patients has been demonstrated repeatedly. It is not a cure-all, and is not applicable to all patients. It is gaining distinct preference over artificial pneumothorax and

is now being utilized even in lesions of limited extent and with small cavities.

Patients and their advising physicians must learn that such a series of operations should be carefully planned and prepared for. Tuberculosis is a serious disease and its treatment may necessarily involve major surgery. Yet there is a tendency for patients to want to run away when a surgical remedy is suggested. There is an equal tendency for them to seek a less drastic way out. They must be taught that the remedies offered are the result of an appraisal of the particular condition presented, evaluated along the lines that have been discussed. With this type of selection and planning, with a skillful surgical team and anesthesiologist, and with meticulous preparation and post-operative care, the results should be increasingly in favor of thoracoplasty for the therapy of pulmonary tuberculosis.

Conclusions

1. The patient's physician should be equipped to provide presanatorium orientation.
2. Factors to be evaluated in planning collapse therapy include:
 - a. The general status and respiratory capacity of the patient.
 - b. The character of the disease process.
 - c. The remote effects upon the lung of each form of treatment.
3. Thoracoplasty for selected patients can provide a permanent, effective collapse of the involved portion of lung.
4. Thoracoplasty should be undertaken more frequently as the initial form of collapse therapy.

CONGENITAL GASTRO-ENTERIC CYSTS OF THE THORAX:

A Review and Report of a Case

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and

Francis C. Coleman, M.D., Des Moines

Gastro-enteric cysts of the thorax are relatively rare. In 1944, Olken collected eighteen cases from the literature and added one of his own. Two cases have since been reported by Schwarz and Williams, one by Wyllie and Pilcher, five by Ladd and Scott, one by Laipply, one by Steele and Schmitz, and one by Valle and White.

Of the thirty cases, 70 per cent were found in the right pleural cavity, 20 per cent in the posterior mediastinum, and 10 per cent in the left pleural cavity. Twenty-eight of these cases were

in patients under the age of 29 months. The other two were discovered at the ages of 14 years and 23 years. Neither of these had produced symptoms. The origin of such cysts has been ascribed to the pinching off of a bud or a diverticulum of the embryonic foregut, or to a persistence of a portion of the vitelline duct. The fol-



Fig. 1. Gastro-enteric cyst in right pleural cavity. The mediastinum is displaced to the left, and the liver is displaced downward.

lowing case is unusual in that the gastro-enteric cyst was present at birth.

Case Report

Baby girl N. was delivered spontaneously at full term after a normal pregnancy on Oct. 20, 1946; very light anesthesia was required. Cyanosis appeared immediately after delivery but was relieved by oxygen administration. One hour after delivery cyanosis reappeared in spite of continued oxygen. On physical examination no demonstrable expansion of the chest occurred with each respiration. No breath sounds could be heard on the right side of the chest. Dullness to percussion was present over the entire chest posteriorly. The abdomen was distended and the liver palpable three fingers breadth below the right costal margin. Cyanosis became more marked and the respirations more rapid. The baby expired six hours and twenty minutes after delivery.

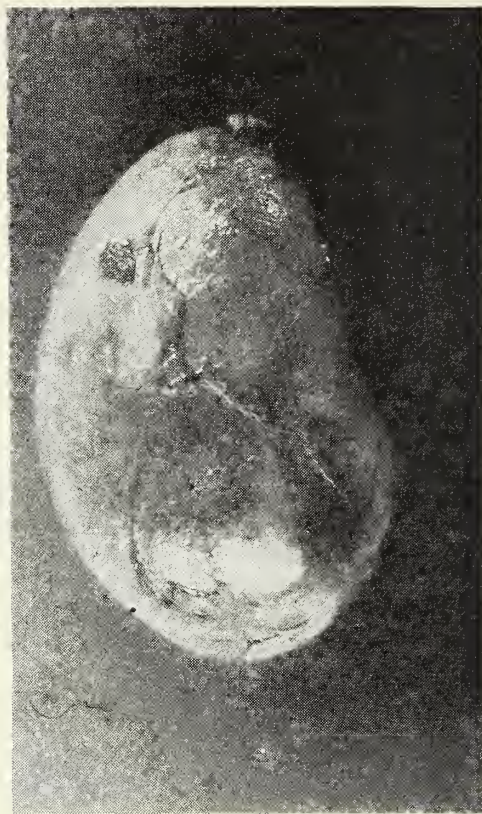


Fig. 2. Gastro-enteric cyst. Many adhesions are present on the outer surface.

Autopsy (Performed 7 hours after death)

The peritoneal cavity contained approximately 25 cc. of clear straw colored fluid. The diaphragms were pushed down so that they were at the level of the eleventh rib on each side. The liver was also pushed down and the stomach, in-



Fig. 3. Gastro-enteric cyst wall. The wall consists of mucosa, submucosa, muscularis mucosae, a longitudinal and a circular muscular layer, and a serosa. Only part of the longitudinal muscle layer is shown; $\times 100$.

stead of lying inferior to the liver, was posterior to the left lobe of the liver. Examination of the pleural cavities revealed a shift of the mediastinum to the left. The left pleural cavity contained approximately 35 cc. of straw colored fluid. The right pleural cavity was filled by a cystic structure measuring 11 cm. x 7 cm. x 4 cm. This cyst was adherent to the diaphragm below, to the mediastinum medially, to the great vessels of the neck superiorly, and to the vertebrae posteriorly. It extended upward into the neck so that it was within 0.5 cm. of the thyroid gland. Its most firm point of attachment was to the anterior surfaces of the cervical vertebrae. This cyst was soft and contained clear mucoid fluid. No chemical analysis of the fluid was made. Incidental findings were complete atelectasis of the right lung, 90 per cent atelectasis of the left lung, and a central interventricular septal defect of the heart.

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ALLERGY IN OTOLARYNGOLOGY

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The subject of allergy as it applies to otolaryngology is too large for consideration in detail here. It is my purpose to consider some of the allergic conditions commonly encountered in everyday practice with views on them expressed in recent literature. I want also to stress the importance of considering allergy in every patient.

Most of the diseases we are called on to treat fall under the headings of trauma, deformities in development, new growths, infection and allergy. These all produce disturbed physiology. It is our job to determine which of these factors is causing the symptoms. In many cases allergy plays the important role or modifies the other factors, and we cannot restore normal function unless it is given special consideration.

The incidence of allergy runs high. Vaughan¹ estimates that at least 10 per cent of the population exhibits a major allergic manifestation some time in life. Shambaugh² states that 70 per cent of chronic sinusitis and 90 per cent of chronic nasal infection can be shown to have an underlying allergic factor responsible for the chronicity. Kern and Schenck state that polyposis is always an evidence of allergy. Arbuckle says 50 per cent of sinus patients have an allergic background. Ménière's syndrome or endolymphatic hydrops is now being explained on an allergic basis. Many cases of otitis externa, some of otitis media and some of chronic catarrhal deafness are being given an allergic etiology. The disturbing symptom of tinnitus is being considered in many cases an allergic manifestation. Headache

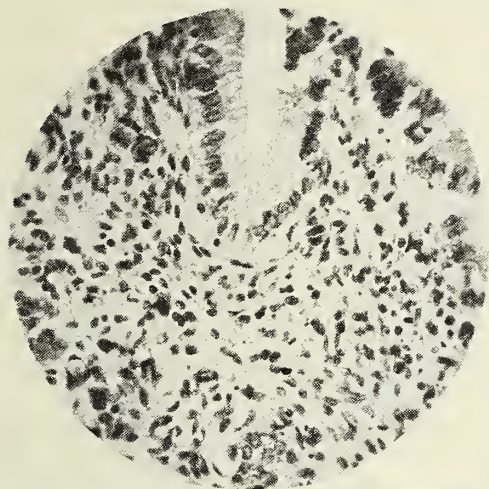


Fig. 4. Mucosa of gastro-enteric cyst. Glandular formations are lined by columnar mucous secreting epithelium. Both chief cells and parietal cells are present; x 440.

Microscopic examination of the cyst wall revealed it to be covered externally with a mesothelial lining resembling pleura. Two layers of smooth muscle were present, one layer being longitudinal and the other circular. A muscularis mucosa was present. The mucosa consisted of well defined glands surrounded by a delicate stroma. The glands for the most part were lined by columnar mucous secreting epithelium. Both parietal and chief cells could be identified in some of the formations.

Summary

A congenital gastro-enteric cyst occurring in the right pleural cavity of a female infant is reported. These cysts usually occur before the age of 29 months and 70 per cent of them occur in the right pleural cavity.

is often relieved best when considered as an allergic manifestation.

The manifestations of allergy in the ear, nose and throat are probably best summarized by Hansel³ as follows: ear—external canal by eczema, urticaria, purpura, contact dermatitis; eustachian tube by edema; middle ear by edema; internal ear by deafness, vertigo, tinnitus, edema; auditory nerve, the same; nose by perennial nasal allergy and hay fever, hyperplasia, polyposis, edema; paranasal sinuses by hyperplasia, polyposis, edema; mouth by cheilitis, canker sores, stomatitis, edema, ulceration, hemorrhage; pharynx, nasopharynx, and larynx by urticaria, hemorrhage, purpura, edema and ulceration. We must always be on the lookout for these more or less characteristic manifestations.

Our understanding of the allergic reaction is very incomplete. Some conceive that the reaction is in a sense a protective one having features in common with immune responses. In the allergic individual, however, there is over reaction in response to a variety of external and internal stimuli and symptoms result. These symptoms can be attributed usually to increased capillary permeability and resulting edema or to smooth muscle spasm or to both.

The exact mechanism of the allergic reaction in terms of tissue chemistry is also a matter of speculation. At present it is believed by many that the union of antigen and antibody on the cell surface results in release of a substance which is similar to if not identical with histamine. This has been called H substance and it is thought to be immediately responsible for allergic reactions.

It is difficult to fit some of the manifestations of allergy into a concept of altered immunity and the histamine theory to explain the mechanism of the allergic reaction also has gaps in it. At present a broad viewpoint which is simply descriptive of allergy as we see it is probably most helpful clinically. Vaughan expresses such a viewpoint when he says that allergy represents a failure in adaptation to environmental influences such as pollens, foods, contactants, physical agents and bacteria. The common denominator of this failure is not known but there is reason to think that it is influenced by heredity, that it is linked with a hyperexcitable autonomic nervous system and that it is subject to psychic influences and fatigue. With such a viewpoint we are prepared to consider the patient as a whole and to assess the many factors which play a part in an individual case.

Let us now consider the patient. He comes to us with certain complaints, usually referring them

to certain areas. He says his head aches or his nose is stuffy all the time, that he has to clear his throat frequently, his throat is sore, his ears ache, or that he is dizzy or deaf. It is best then to take these areas up one at a time.

First let us consider headache. You are all familiar with migraine. Perhaps this condition does not belong in our field but we see these patients all the time and must at least recognize the condition. Typically the attack is periodic with free intervals, preceded by visual aura; is unilateral, incapacitating, accompanied by nausea and sometimes vomiting. But many cases do not follow this pattern. Allergy may not be found as a cause in all cases but it must be considered if one is to attempt treating these patients.

In addition to this typical migraine picture Williams⁴ speaks of a vasodilating pain syndrome: deep, unilateral, sudden in onset and associated with dilatation of the capillaries of the skin and conjunctiva on the homolateral side with edema of the lids and lacrimation. He believes this is brought on by sudden changes in temperature and by imbibing alcohol. He explains the allergic relationship by a physical or psychic stimulus impeding the flow of blood in the capillary loops, interfering with nutrition and releasing histamine in the tissues thus causing the edema and pain. He states that this condition can be relieved by the use of niacin, a vasodilator. Certainly there is nothing much to be found on physical examination of these patients, and one must get most of his information from the history.

Williams⁵ also describes what he calls "myalgia of the head" which is referred to by his patients as "sinus headache." He believes this pain to be due to hyperplastic sinusitis which he says indicates a primary nasal allergy on which is engrafted a secondary infection. He locates tender spots in the muscles of the head and neck and describes them in detail. These symptoms usually occur in the third decade of life or later after an acute infection and are precipitated by exposure to drafts or emotional stimuli. The pain is deep and can often be reproduced by pressure over the tender muscle area or temporarily relieved by aspirin, but he gets good results by the use of niacin over a period of time.

Next let us consider tinnitus and deafness. Ménière's Syndrome is now spoken of more descriptively as endolymphatic hydrops. There is an extracellular edema in both acoustic and cochlear end organs. Grove⁶ states that it occurs in patients with an allergic history such as vasomotor rhinitis, asthma, etc.; that there is vasomotor instability and increased capillary permeability. It

occurs usually in the third, fourth or fifth decade and starts with violent vertigo, though it may start with deafness or tinnitus. The vertigo gives the patient the sense of whirling or of objects whirling about him and is aggravated by movements of the head. In intervals between attacks the patient feels good but may complain of a headache as an extra aural symptom. Sometimes there are preliminary aura such as fullness of the head, faintness, a burning sensation in the throat or tingling and numbness of the fingers. Miles Atkinson⁷ divides the patients with Ménière's syndrome into two groups, those sensitive to histamine by intradermal test which he treats by histamine desensitization and those due to vaso spasm which he treats with nicotinic acid. Reduction of fluids is also a factor in the treatment. Lawrence Farmer⁸ concludes in an evaluation of the histamine intradermal test as a general indicator of allergy that it is not possible to differentiate allergic from nonallergic individuals by this test.

Tinnitus is considered by Atkinson⁹ as a parasthesia of the auditory nerve, symptomatic of an active pathologic disturbance of the auditory tract, a warning of impending deafness. He makes the statement that Ménière's syndrome is no other than chronic progressive deafness with tinnitus complicated by a vestibular disturbance, and that 85 per cent of the cases of chronic progressive deafness are improved with nicotinic acid.

Chronic otorrhea is occasionally due to allergy. Noun¹⁰ gives the history of two cases which cleared when treated for a food sensitivity. Gay¹¹ recommends the treatment of residual lymphoid tissue in the naso-pharynx by radium in cases of deafness which may have an allergic factor. In these cases there may be evidence of blocking of the tube only at the orifice.

The throat rarely enters into the symptomatology except in cases of angioneurotic edema or as a part of the complaint of allergic rhinitis when the patient is disturbed by the profuse mucous discharge and the resultant hawking and spitting. Sometimes there is a complaint of sore throat with no evidence of inflammation on examination; this may be an evidence of allergy. Of course the trachea and bronchi enter into allergic changes resulting in a chronic cough and asthma.

By far the greatest percentage of patients with allergy coming to our offices have symptoms referable to the nose. These are the cases of hay fever and perennial allergic rhinitis and sinusitis. Various terms have been used to name the condition, for example—chronic catarrh, chronic sinusitis, atopic coryza, atopic rhinitis, perennial allergic

rhinitis, perennial hay fever, nasal allergy, seasonal hay fever, pollinosis, nasal asthma, vasomotor rhinitis. Perhaps allergic rhinitis is as good as any. These patients complain of a "stuffy nose," especially at night. On arising they have a dry mouth, bad taste and foul breath, and they hack and clear their throat, spitting up thick mucus. They sneeze and blow their nose frequently and have a dull feeling or headache. They complain of morning fatigue and often have gastro-intestinal symptoms. There is a marked tendency to chronicity. Shambaugh² states that there is a marked contrast in the way of normal nasal and sinus mucosa recover from severe infections as compared to the allergic nose when hyperplasia is present. On examination the nasal mucous membrane may appear pale and edematous. This would be a characteristic picture. But many cases of nasal allergy do not exhibit this pallor. There is in some only a dull red intumescence of the turbinates with strands of mucus stretching across from septum to lateral nasal wall. If mucopus is present there may be an accompanying infection. Polypi are almost a sure indication of allergy. Pathologically, the mucosa would show desquamating epithelium with increased number of goblet cells, thickening of the basement membrane, edema of the subepithelial connective tissue which is infiltrated by eosinophils.

Now that we have the patient's complaint and have inspected the area involved and suspect allergy, what next? We must prove it as far as possible by a detailed allergic history, examination of nasal smears for eosinophils and detection of the specific allergen by skin tests or elimination diet, so that we may know how to proceed with treatment. This may take more time or involve more investigation than we wish to give. If so, someone specializing in allergy should go on from here. Shambaugh² recommends that the rhinologist make his own allergic studies. He says that skin tests are useful but not always reliable as a means of diagnosis, that twenty to thirty tests are sufficient for the average case after reducing the possibilities by a careful history as to the influence of season, surroundings, climate, diet, etc., that an elimination diet is usually necessary for the determination of specific food allergy and that sometimes it is necessary to try a therapeutic test such as desensitization with house dust, which he finds responsible in a large percentage of nasal cases. He uses as small an amount as .05 cc. of 1:10,000,000 dilution as the initial injection. It is his aim to keep the patient in what he calls "allergic balance" by continued small injections.

In taking the history one must inquire into al-

lergic manifestations in the family, such as eczema, hay fever, asthma and migraine and into childhood manifestations such as colic and eczema. The influence of season and climate, the effect of indoors or outside air, the time of day the symptoms are most pronounced, the influence of fatigue and emotional conflicts; these are all very important in limiting the possibilities and pointing to probable allergens. The psychic factor may be nonspecific but is a very important one in initiating and influencing allergic symptoms. Cedric Swanton,¹² in discussing psychologic influences in the asthmatic child, quotes Urbach as saying that there are five times as many neurotic conditions among the allergic as among nonallergic individuals. He states that this would seem to justify the assumption that nervous instability constitutes a predisposing factor in relation to allergic diseases. Winfred L. Post,¹³ in discussing nasal psychosomatic syndromes accompanying and following acute anxiety in soldiers, states that the functional activity within the nose is a somatic reflection of the individual's emotional state. I am sure I observed this relationship among many unhappy soldiers. The incidence of what might be better termed hyperesthetic rhinitis in these cases seemed far greater than in civil life. Psychotherapy may be a very important part of the management of allergic cases.

The examination of nasal smears for the presence and number of eosinophils is considerable aid in the diagnosis. A negative smear does not necessarily rule out allergy, but a positive smear makes the diagnosis certain. Blood eosinophilia, when found, also indicates allergy.

Dutton¹⁴ emphasizes proper technic in preparing and staining nasal smears. He feels that we fail to utilize them to the fullest degree because of difficulty in recognizing poorly stained eosinophils, and suggests the following technic: nasal mucus is obtained by swab or by blowing into waxed paper, then smear is made on a clean slide and dried by air and not flame. Flood slide with thin film of eosin solution, immediately wash in tap water; alcohol and acetone decolorizing solution for 10 seconds; wash in tap water again. Cover with methylene blue and again tap water, the whole procedure taking about thirty seconds. When dry, examine first with low power then oil immersion. Repeated smears may be necessary.

Skin tests are best done intradermally using those allergens suspected from the history. They are more reliable when testing for inhalants than foods. Elimination diets are usually necessary to determine food allergy. King¹⁵ states that he commonly tests for feathers, house dust, orris root, wheat, milk, eggs, chocolate, dander, tim-

othy and ragweed and that there are very few cases where allergy is based on infection. It takes judgment and experience to interpret skin reactions and for that reason they are probably best made by the allergist.

Now we come to the treatment of our patient. From the foregoing it is quite obvious. Some temporary relief may be obtained by the use of antihistaminic drugs such as benadryl and pyribenzamine. These are chiefly valuable to give the patient some relief while further investigations are made. Avoidance of guilty foods or inhalants may be successful. Hyposensitization by extracts is helpful in other cases. In all cases the management of contributing factors such as sudden changes in temperature, physical and mental exhaustion, endocrine imbalances and emotional storms is very important.

Conclusions: Allergy is a frequent manifestation in the practice of otolaryngology. It must be recognized as a possibility in every patient. By complete management we have the means of giving relief to a high percentage of patients.

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AMERICAN CONGRESS OF PHYSICAL MEDICINE MEETING

The Midwestern Section of the American Congress of Physical Medicine will hold its annual sectional meeting and seminar Feb. 26-27, 1948, at the Veterans Administration Hospital, Hines, Ill. Registration will start at 10 a. m. February 26. A seminar on spinal cord injuries will follow at 11 a. m. The program includes conducted tours of the physical medicine rehabilitation activities at the hospital. All sessions will be open to physicians, other professional personnel and their guests.

College of Medicine
State University of Iowa
**CLINICOPATHOLOGIC
CONFERENCE**

December 8, 1947

Summary of Clinical Record

This 58 year old man was admitted to the hospital on June 12, 1947. His illness began eight years previously when, after a rest period following a game of baseball, he experienced weakness of the left lower extremity. He was examined in the hospital in 1940, at which time he exhibited weakness of the left lower extremity and impairment of vibratory sense, two-point discrimination and position sense on both lower extremities, more severe on the left.

Gradually over the next few years he developed increasing difficulty in walking, and both lower extremities felt numb. He noticed that when he immersed his left leg in tepid water, the water felt unusually hot. Six months previous to admission he began to experience a band-like sensation in his upper abdomen. This discomfort was particularly severe on the left side. He denied backache or any aggravation of his discomfort when he coughed or sneezed. There was slight disturbance of the function of his bladder in that he experienced difficulty in starting the urinary stream. The hearing in his left ear had been poor since an automobile wreck 34 years previously, when he also experienced a paresis of the left side of the face.

He was an obese man weighing 220 pounds with normal temperature. His pupils were round and equal, and reacted well to light and accommodation. His uncorrected vision was 20-40 in each eye. The ocular fundi were normal. There was a slight droop of the left side of the face, and the hearing was reduced to an estimated 80 per cent of normal in the left ear. Examination showed the tongue and palatal muscles to be normal. His neck was strong, and anteflexion of the neck did not aggravate the difficulty with his lower extremities. Physical examination of the heart was not unusual; the blood pressure was 170-110. Abdominal examination was normal. His spine was straight, flexible and nontender. Situated at the dorsolumbar junction was a subcutaneous nodule which measured 8x6x4 cm. There was weakness and atrophy of the small muscles of the hands. Both lower extremities

were hypertonic and ataxic, but there was no selective atrophy of the legs, and no fibrillary tremors were observed. The biceps reflexes were hyperactive, the abdominal and cremasteric reflexes were absent, knee reflexes were very hyperactive, the Achilles reflexes were diminished, and the response to plantar stimulation was extension. Vibratory sense was absent on both legs, the trunk and both little fingers. Pain and thermal sensations were absent on the right lower extremity and impaired on the left. Impairment of pain and thermal sensations extended up as high as the second dorsal dermatome. Sensation of light touch was impaired very little over these several areas. His gait was spastic ataxic.

The urine was negative for albumin and sugar. Serologic tests on the blood were negative for syphilis. The hemoglobin was 14 gm., the leukocyte count 9800 per cu. mm., and the blood smear showed no unusual findings. X-ray films of the cervical, dorsal and lumbar spine were normal except for advanced hypertrophic changes in the dorsal and lumbar regions. An x-ray film of the chest revealed calcification of the pleura in the left base. A spinal puncture was performed in the lateral horizontal position. The fluid was slightly yellow in color, contained 3 monocytes per cu. mm., 2 plus globulin, a total protein of 102 mg. per 100 cc., and a negative Wassermann. The rise and fall of the fluid in the spinal manometer were very slow when the jugular veins were compressed and released. On June 26, 5 cc. of lipiodol was instilled into the cisterna magna. The column of lipiodol was delayed at the fourth cervical level in its passage down the spinal subarachnoid space. Below this point the contrast medium was irregularly distributed down to a level corresponding to the first dorsal vertebral region.

On June 28 a laminectomy was performed from the third to the seventh cervical regions, inclusive. The bone and dura mater looked normal. On palpation, the dural sac felt tense. The dura was incised longitudinally. Many string-like adhesions presented between the arachnoid and dura. The arachnoid was thickened and milky. The cervical spinal cord was clearly enlarged, reducing the subarachnoid space to about a millimeter in depth. Over the surface of the spinal cord were many moderately enlarged tortuous and freely intercommunicating blood vessels, most of which appeared to be arterial in character. All aspects of the cervical canal were inspected, and extramedullary pathologic processes were excluded. Anomalous blood vessels were seen over the anterior as well as the lateral and posterior aspects

of the cord. The posterior median line of the cord was incised, and a grayish, granular looking tissue was demonstrated. A tiny biopsy was taken. It was felt that the intrinsic tumor was nondemarcated and therefore inoperable. Closure was carried out.

Two days following operation a neurologic survey disclosed no positive findings other than those recorded preoperatively. The patient ran an irregular febrile course with variation between 101 and 103 F. and corresponding increases in pulse and respiratory rate. This unstable elevation of vital signs persisted, although gradually receding, until the patient's death sixteen days after operation. The patient voided urine voluntarily on the second postoperative day. However, the same difficulty in micturition noted preoperatively prevailed, for which reason the patient was kept on

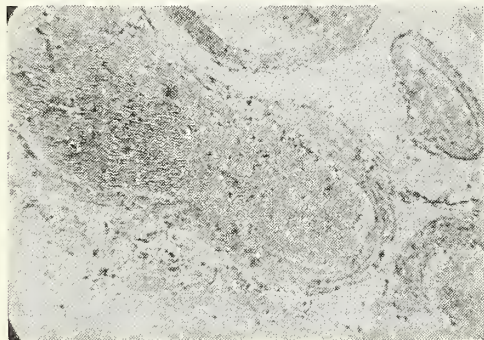


Fig. 1. Large vessels over cord.

"tidal drainage." A second visceral dysfunction took the form of abdominal distension. Because of the persistent febrile state, penicillin was instituted on the fifth postoperative day. The operative wound appeared healthy and all sutures were removed at the end of the first week. The tendency for tympanitic distension of the abdomen was combatted with enemas, the infra-red lamp, rectal tube and intramuscular injections of surgical pituitrin. Beginning on the fourth postoperative day, the patient ate well.

There was no essential change in the patient's condition except for a gradual lysis of febrile state until midnight between the fifteenth and sixteenth postoperative days. At this time he became somewhat dyspneic. At 7:30 a. m. on July 14 he became apprehensive. He complained only of shortness of breath, asserting that he had no pain anywhere. He grew ashen, cyanotic, cold and clammy. The temperature at this time was 99 F., the pulse rate 88 per minute, and the respiratory rate 40 per minute. Blood pressure was 90/70. Mentally he was alert and clear.

Neurologic examination disclosed no additional findings. By percussion, the heart was found slightly enlarged to the left. The tones were weak and muffled. An occasional extra-systole was observed. The lungs were clear. The abdomen was somewhat distended but was soft and exhibited no masses or tenderness. The patient could expel flatus. Ephedrine, gr. $\frac{3}{4}$, was given intramuscularly, followed by morphine sulphate, gr. $\frac{1}{4}$. A supportive glucose infusion was started. The patient expired at 8:50 a. m.

Clinical Diagnosis

Intra-medullary cord tumor

Intrathecal hemangioma

Necropsy Findings

The principal lesions were in the cervical portion of the spinal cord. The cord was greatly enlarged in this area and its surface was covered by large dilated blood vessels (fig. 1). These had prominent muscular walls, and each was many times larger than the normal spinal artery. On cross section the cord substance was seen to be honeycombed with cystic spaces (fig. 2.) The surrounding cord tissue was compressed and showed gliosis in microscopic section. The cystic cavities had no definite epithelial lining, but a single cell layer could be made out in some areas. These cells resembled ependyma. The cystic spaces did not communicate with each other. There were about 6 such spaces. The remaining cord structures showed myelomalacia and atrophy. The cord architecture was greatly distorted.

The heart was both dilated and heavy. It weighed 500 gm. (normal 360 gm.), and there was considerable hypertrophy of the myocardial fibers. The coronary arteries showed advanced sclerotic changes but no definite occlusions could be demonstrated. A large recent myocardial infarct occupied the apex and lateral wall of the right ventricle. Masses of thrombus material were adherent to the endocardial surface in this area. Organization was proceeding at the base of the thrombus.

The bronchial tree contained bits of aspirated food material. Several large, tangled masses of old fibrin were found in the right pulmonary artery. These occluded the artery close to its origin. A previous embolus had apparently lodged in this same vessel since a large, rather old infarct was found in the posterolateral portion of the upper lobe.

The viscera were all congested. The spleen and liver were heavy as a result of this congestion. Incidental findings included a stone in the lumen of the gallbladder and chronic inflamma-

tion in its wall. Extensive old fibrous adhesions between the lungs and chest wall obliterated the left pleural space.

Necropsy Diagnosis

Syringomyelia, cervical and dorsal cord with extensive myelomalacia.

Arteriosclerosis, severe, with coronary sclerosis.

Myocardial infarct with mural thrombus right ventricular wall.

Massive pulmonary embolism.

Pulmonary infarct, right lung.

Myocardial hypertrophy and dilatation.

Visceral congestion.

Chronic cholecystitis with cholecystolithiasis.

Pleural adhesions, extensive, left.

Dr. A. L. Sahs (Neurology): This patient was 50 years old when his neurologic difficulty began. His illness started after a period of exertion and was characterized by weakness of his left lower extremity. Approximately one year later he was examined in this clinic; by that time the situation had progressed to the point where both lower extremities were affected.

From the diagnostic standpoint, one might consider several diseases which are likely to occur at this stage of life. In the first place, syphilis could have produced this same situation. Multiple sclerosis occasionally begins at the age of 50 and is characterized by the same symptomatology. A spinal cord tumor should be considered in an individual who presents a picture of this sort. He preferred at that time not to enter the hospital and was not examined for a period of several years. Gradually over the period of the next few years, symptoms indicating an ascending type of sensory loss began to make their appearance.

When he was admitted on June 12, 1947, he was found to have a droop of the left side of the face and a reduction of the hearing. These were sequelae of an old injury, apparently. It was noted that the blood pressure was slightly elevated, but the routine physical examination of the heart was normal. The findings which were present at that time indicated spastic and ataxic lower extremities and a dissociated type of sensory loss. In other words, deep sensation (vibration, two-point discrimination and position sense) were very severely impaired. These sensory findings were elicited as high as the little fingers. Pain and thermal sensations were absent on the right lower extremity and impaired on the left. Interestingly, light touch was not very much affected.

In other words, there was a very selective type of sensory loss in this particular situation. The

urine was negative for albumin and sugar; all tests for syphilis were negative. The x-ray examination of the spine revealed nothing unusual in the plain films. The spinal puncture gave us

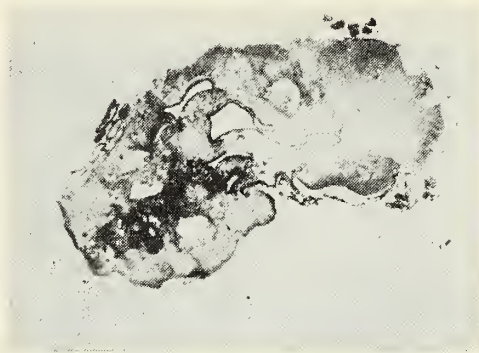


Fig. 2. Dorsal cord: syringomyelia.

definite evidence that a lesion in his spinal canal was blocking the flow of the spinal fluid. The fluid was slightly xanthochromic in appearance; the total protein was elevated, and the rise and fall of the fluid in the spinal manometer was delayed appreciably so that we felt that there was justification for the use of a contrast medium such as lipiodol (fig. 3).

Again we have the same general problem coming up as far as the diagnosis of this case is concerned. In reconsidering the differential diagnosis, syphilis has now been practically excluded by the fact that his Wassermann tests were negative in blood and spinal fluid. Multiple sclerosis is eliminated because of the disturbance in the spinal fluid dynamics. We are left with the diagnosis of spinal cord tumor.

One's attention is now directed to the question of intrinsic or extrinsic spinal cord compression. Clinically, it is not always an easy matter to differentiate the two. Frequently the best that one can do clinically is to make the diagnosis of a tumor and then to determine exact level of that tumor by using contrast medium. In this instance the diagnosis of spinal cord tumor of the cervical level was made, but the question as to whether this was extrinsically or intrinsically situated was not entirely settled. The results of the lipiodol examination are evident in figure 3. At operation, as indicated in the protocol, this patient exhibited a large number of dilated vessels of a racemose type situated over the surface of the cord. Dr. Meyers was kind enough to call me at the time he had this cord exposed at operation. It was our opinion that this spinal lesion was probably angiomatous in nature. Angiomatous lesions of the spinal cord may have dilated vessels over the sur-

face, vessels which worm their way in and out of the spinal cord.

Dr. E. D. Warner (Pathology): The other findings were those of generalized arteriosclerosis and congestion of all the viscera, as you would expect

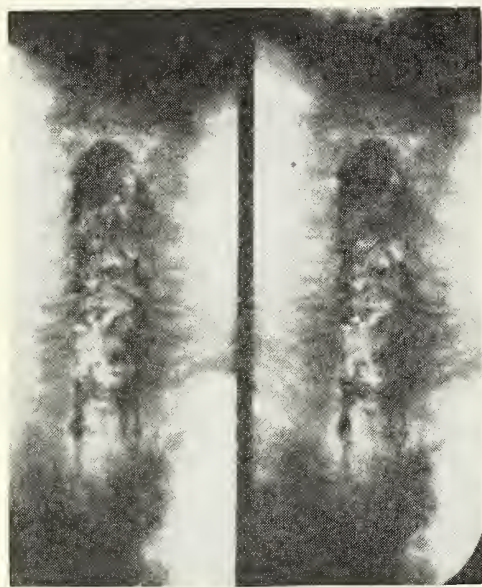


Fig. 3. These two spot films demonstrate lipiodol within the spinal canal in the region of the lesion. The irregular filling defects are due to the dilated blood vessels over the cord. Because of this an x-ray diagnosis of hemangioma was made.

with his massive pulmonary embolus. He died of the complications of arteriosclerosis with myocardial infarction, with pulmonary infarction, and massive pulmonary embolism. As perhaps the agonal event, the tracheo-bronchial tree was full of aspirated vomitus.

Dr. Russell Meyers (Neurosurgery): It was the consensus that we were dealing with an intramedullary lesion. The major reason for assuming that the patient did not have an extramedullary tumor bore reference to the fact that pain and tenderness were so inconspicuous a part of the patient's history. The patient had no radicular pains, nor did he have any local pains in the region of the cervical or upper thoracic spine. Neither did he have any intensification of discomfort on coughing and sneezing, bending, lifting and straining. Likewise, anteflexion of the neck failed to evoke an intensification of discomfort. It ought to be emphasized, however, that none of the criteria which were relied upon with such confidence twenty years ago in clinical neurology can be reliably substantiated as the means of differentiating between intramedullary and extramedullary lesions. It not infrequently happens, however,

that an individual with extramedullary lesion has a good deal of pain, and on the other hand that one with a similar lesion may have had no pain or tenderness at any time in his course. Now the presence or absence of pain is generally taken to be one of the criteria by which we may infer whether a lesion is intramedullary or extramedullary; that is, the absence of pain and tenderness may be taken as probably indicating the presence of an intramedullary rather than extramedullary lesion. Pain is much more likely to be inconspicuous when an extramedullary lesion is located in the anterolateral or anteromedial portions of the spinal canal, that is—remote from the dorsal and dorsolateral disposition of the nerve roots that convey sensory impulses into the cord.

Aside from the matter of pain and tenderness as related to the locus of the lesion, I think we can derive a second lesson from this case. This may be introduced by observing that neurologic signs and symptoms are *as they are* simply because there has been a disturbance of a neurophysiologic mechanism. Such a disturbance will be very much the same irrespective of the etiologic agent which induces that disturbance. More specifically, in spinal cord problems, we encounter changes in deep and superficial sensation, deep and superficial reflexes, motor status, motor power, and vegetative functions as represented by the anal and bladder sphincters. Likewise, we encounter changes in coordination and integration of movements. These dysfunctions are all of the same clinical character whenever a given neurophysiologic mechanism is disturbed and that irrespective of the cause. It is on such a concept that one might postulate on clinical grounds the presence of a tumor when in point of fact he is actually dealing with a degenerative or dysplastic type of disease, of which syringomyelia is a prominent example. Whether we are dealing with vascular, congenital or degenerative disease, with neoplasms, infectious processes of virus, pyogenic or whatever origin, or whether we are dealing with traumatic lesions, the signs and symptoms will be similar and one may not reliably infer from clinical considerations alone the etiologic agent responsible for that disturbance.

There is another lesson we can derive from this case. Upon laminectomizing the cervical region, a large expanded cervical cord was encountered occupying almost all of the available canal. On the surface of the cord—laterally, dorsally and ventrally—there was a complicated snarl of cavernous blood vessels. These cavernous vessels suggested that we were dealing with an inoperable angiomatous type of lesion. Operation in such

cases is likely to produce a complete tetraplegia, for once the operator gets into the substance of the lesion he encounters fragile vessels and produces intrinsic hemorrhage in the cord at every new step of his procedure. When the patient has even a small amount of function remaining, the surgeon does wisely in exercising a policy of conservatism. This was the guiding principle employed in this case once we were satisfied that we were dealing with an inoperable intrinsic lesion. As you now know, the blood vessel lesions were ultimately demonstrated to be chiefly on the surface. Such a finding is, in my experience, a nonspecific process.

A third point deserves emphasis in this case. This has to do with the traditional clinical story of syringomyelia. If one were to ask the average clinician for a "trick" mnemonic device to be applied to the clinical manifestations of syringomyelia, the response he would get would be sensory dissociation. This pathophysiologic manifestation is generally supposed to be the characteristic feature of syringomyelia. It is asserted that the syringomyelic patient exhibits a dissociation of perception such that pain and thermal sensations are blotted out, whereas tactile sensation is commonly preserved. This notion is posited on two concepts, the first of which has to do with the physiology of the spinal cord and the second of which has to do with an erroneous concept of the pathology of syringomyelia—the notion that the latter is characterized by a cavitation in the center of the cord.

The notion arises that an "enlargement" of the central canal knocks out the pain and thermal fibers which are coursing through the ventral commissure on their way to the thalamic tract. Clearly, such a lesion leaves undisturbed those tactile fibers which are disposed in the dorsal columns. The phenomenon of sensory dissociation is conceived to arise in such a fashion. The major difficulty with the concept as applied to the present case is that syringomyelia is *not* a disease of the central canal of the spinal cord. The lesion or lesions are eccentric in their onset. The disorder as far as we now know begins in the glia as a degeneration. Several such vacuolized areas may approach one another and coalesce, in time encroaching upon or displacing the central canal. The rather rarely encountered condition in which there is actually a dilatation of the central canal should not be called "syringomyelia" but "hydromyelia." Our present knowledge forces us to regard this as a quite different pathologic process from that of syringomyelia. The eccentric character of syringomyelia is well represented in our present case.

There is one final point. The pathologic examination revealed that this man had evidences of coronary and pulmonary complications. Yet nowhere in his course did we encounter a full-blown clinical picture of such lesions. Even when he entered upon his pre-agonal hour he had no pain. This leads us to speculate on the reasons why this may be. He exhibited dyspnea early in the morning of the sixteenth postoperative day, and by 7:30 a. m. he had become highly apprehensive and complained of shortness of breath. However, when inquiry was directed at the acutely developing problem he asserted that he was experiencing no pain anywhere. He grew ashen, cyanotic, cold and clammy and showed the often-encountered picture of an individual entering upon his pre-agonal hour as a result of a cardiac or pulmonary catastrophe. We are led to observe that a patient may have the characteristic apprehension without pain being a primary factor in its production. We may speculate on whether the damage evident in the pathologic cross sections of the cord effectively interrupted the visceral ascending pathways, thus blotting out pain of either pulmonary or cardiac origin or both.

Dr. Sahs: I have a few things more to add to the picture as presented to you by Dr. Meyers. First of all, I will mention the age group in which syringomyelia ordinarily is encountered. As you know, it is a disorder which generally appears in young adulthood, but the fact that it does appear at the age of 45 or 50, or even beyond that time, is not entirely surprising. I would certainly emphasize what has been said about the irregular nature of these lesions and would substantiate entirely the statement that this is not primarily a lesion of the central canal of the spinal cord. In numerous sections studied one can almost invariably find a central canal which looks quite normal, or one which is pushed to one side by the presence of these cystic areas. You may ask what causes these cysts to develop. That question is not so easily answered, but perhaps several statements about the associated lesions might give one some slight clue as to what is going on in these cases. If one looks through the literature one finds many case reports in which other lesions have been present elsewhere in the body or in the central nervous system, a few of which are asymmetrical mammary glands, pigeon breast or outwardly curving sternum, and scoliosis (which is a very commonly associated or resultant finding). In one of our cases an Arnold-Chiari malformation was found. Other lesions which have been reported in association with syringomyelia include cervical ribs, Sprengel's deformity and spinal cord tumors of various types. In pub-

lished reports of spinal cord tumors there are some instances in which spinal cord tumor had produced most of the trouble, but in the course of the investigation syringomyelia was found as well. One of our cases had multiple tumors, neurofibromata, and had rather definite syringomyelic lesions in the spinal cord. Incidentally, these lesions may be present in the brain as well. They may sweep up through the medulla and have been reported even as far superiorly as the ventricular system.

Now a word or two about the typical symptomatology seems to be in order. Remember this is an asymmetric type lesion. The trouble generally starts on one side of the body—usually in the cervical region. The lower extremities may be involved first. One of the first things an individual notices is that he will have some impairment of thermal and pain sensation. The history from these patients is to the effect that they will burn themselves usually on a cigarette without knowing it. That same loss of pain and sensation may be present in other portions of the body. Associated with this pain and thermal loss will be involvement of the other tracts, particularly the dorsal columns and the corticospinal pathways. One must think of this disease as groups of lesions scattered rather indiscriminately throughout the cord but involving the posterior portion of the cord first of all or most severely of all. Often these cystic lesions will be situated from the medulla down to the sacral region.

Dr. Warner: I would like to add one comment to this case relative to the cardiac lesion in that this again is a case of myocardial infarction which not only did not have pain but also did not have a coronary occlusion. The coronary arteries were sclerotic, they were narrowed, but they were not occluded. There was no complete obstruction of a coronary artery of sufficient size to account for this infarct, nor was there any lesion which could have acutely increased the narrowing of the vessel of the size that it would have to be to account for the size of the infarct.

CORRECTION

The JOURNAL apologizes for an error in the numbering of illustrations which appeared in the article, "One Stage Resection of the Sigmoid Colon with Primary End-to-End Anastomosis for Malignancy: Case Report" by Leonard C. Hallendorf, M.D., which was published in the December issue. What read as figure 2 should have been 3, figure 3 should have been 4, and figure 4 should have been 2.

SPECIAL ARTICLE

THE PRICE OF GOVERNMENT MEDICINE

Fred Sternagle, M.D., West Des Moines

The desire for security is a natural human instinct. Like all good things, however, security has a price. That price is work, saving, and planning for the future. Some people believe our government should relieve us of this responsibility. We have already delegated old age security and unemployment security. Sickness security appears to be the next step.

All the security we desire may be found in Alcatraz—at the price of freedom. It follows, therefore, that if we desire government sponsored security we must consider its character, its price in dollars, and its price in the individual rights that we must surrender to our government.

The past decade has seen much agitation for a national plan of unlimited medical care regardless of economic status or ability to pay. To this end, numerous schemes have been proposed, some of which are vigorously promoted by a group of subordinate but powerful government employees in Washington. The price of any such scheme will be paid by the taxpayers. It behooves us, then, to count the cost and appraise the product.

1. *We pay the price in losing the privilege of being treated when and as desired.* The plan is to socialize medicine and place the federal government in the position of a dispenser of medical services. This scheme will never be practical because everyone has a different idea about sickness and its treatment. When asked what he expects as a recipient of medical service, the average person replies, "Taking care of me when I am sick." We accept this popular idea of medical care. For administrative purposes, the government must decide who is and who is not sick, even though sickness is not always a specific condition but only an opinion arrived at between patient and physician after consideration of the facts. Conclusions will be as numerous and contradictory as there are people and doctors.

The definition of the word "care" would have to carry a designation of what constitutes proper treatment in a particular illness, an impossibility inasmuch as there are as many ideas as we have physicians, cults, and healers. Any attempt, therefore, on the part of our government to regulate and pay for medical services, where the

necessity for such services is often vague and the treatment ill-defined, would invite injustice, irregularity, public controversy, and dissatisfaction, no matter how sincere the effort of enforcement. The American people, unlike continental peoples, are traditionally not subservient to authority, particularly when they disagree with its motives and methods.

2. *We pay the price in liberal contributions to political plunder.* The majority of nationalized medicine plans propose to treat everyone entitled to medical care, whether he actually requires it or not. The people reasonably anticipate a plan which would assure them adequate medical attention in event of prolonged and serious illness. They do *not* anticipate services to victims of hysteria or hangover. Yet this is a huge item when we consider that 80 per cent of those who come to a doctor's office for services are suffering from minor illnesses and imagined disabilities, from which they would recover in a short time without any medical attention. I do not contend that these people should be denied medical attention at their own expense; the cost to any patient would not be prohibitive, unless he permitted himself to be exploited by some mercenary quack. I do contend, however, that including this group in any government plan would invite administrative problems beyond the ability of any civic authority to solve fairly. Consider the large number of people with questionable illnesses who spend annually about three billion dollars for medical service—about 60 per cent of our nation's medical care bill. Consider further the inclusion of such groups in a nationalized medical care plan. Then imagine the possibilities of exploitation by the political combines with which nationalized medicine must necessarily be associated.

3. *We pay the price in surrendering care during sickness to political opportunities.* Any plan depending on a bureaucratic directive for its administration invites political intrigue, particularly when the execution of that plan involves spending huge sums of money for poorly defined purposes. The American people are known to tolerate and condone more crooked politics than any other democratic nation in the world. The deleterious effects of political cunning on medical service would filter down through the bureaus directing medical care and their subordinate offices. If the supporters of nationalized medicine realized that they were banishing the family physician into subserviency to a political machine and surrendering their lives and health to political opportunists, they would never favor the proposal.

4. *We pay the price in sacrifice of the infor-*

mal doctor-patient relationship. The distribution of medical care under a nationalized scheme would necessitate ration boards or bodies whose function would be the same under any other name. Most Americans are familiar with the operations and shortcomings of such boards. There is a difference between medical services and automobile tires. An applicant for help in sickness, especially in an emergency, would have to establish his priority over 80 per cent of other appeals for similar services by individuals whose illness may be largely imaginary. Furthermore, proof of an emergency in any illness is not always apparent until service by a doctor has been rendered. Even that proof is everchanging, because people often get worse or better very quickly. These are only a few of the problems a ration board must face. In such a system, imagine the plight of an individual who has used up his stamps only to find himself suddenly and seriously ill at 2 a. m. on a Sunday morning, without a red stamp, the ration board closed until Monday morning at 9 a. m. and the board itself is not meeting until the following Wednesday evening.

The use of ration boards to regulate medical services would mean that an illness which today is a private matter between the patient and the physician of his choice will become, through the ration board, public business. The physician's responsibility would shift from the patient to the ration board, which would tell him when to treat and even how to treat. It has long been recognized that the introduction of a third party into the relationship between a sick patient and his physician is not good medical practice.

5. *We pay the price in increased cost of medical care.* Proponents of socialized medicine have estimated the cost of such a program as being about six billion dollars annually and have recently admitted that this amount may not be sufficient. These figures are based on experience tables for the cost of medical care six years ago. It is reasonable to assume today that even twice this amount would not be sufficient to carry out these socialistic plans: first, because of the reputation our government has for wasteful and inefficient spending; second, the added administrative costs attendant on such a program; third, the increased demand for services and prolonged attention, which must be anticipated when people have the idea that it is not costing them anything; fourth, because medical men, if regimented to work on salaries, might, like other wage earners, demand an 8-hour day and a five-day week.

6. *We pay the price in surrendering the privilege to endure a handicap or illness in secrecy.*

There are many people holding responsible jobs or enjoying good reputations whose status would be jeopardized if the public were aware of their ailments. It is a heritage of the American people to be treated in secrecy if they so desire, and to iron out any difficulties arising from physical incapacity on a strictly private basis between themselves and their physician. This right is upheld by our courts under the rules of privileged communications, which a physician must not divulge except in unusual circumstances. If the government is to designate the person who shall receive medical care then that patient must divulge his reasons for desiring care, and his doctor will be required to make carbon copies of the procedures and diagnoses, which will be distributed all the way from the local ration board through various other offices to Washington in full view of every inquisitive person who desires to make it his business to read them. Furthermore, the neighbors would be vitally interested in one's illness, especially in regard to how many trips the doctor made, because they would share in the program and pay part of the bill. One could also anticipate being accused of receiving more attention than he deserved, with the result that some snooping official or unofficial investigator will be watching from behind a telephone pole or calling at the home. For alleged infractions of rules, patient and doctor would be subjected to the embarrassment of a public investigation or at least one attended by enough people to make it public.

7. *We pay the price in losing the choice of a physician.* Socialized medicine plans allegedly provide for a free choice of a physician. This freedom is largely illusory. There are not enough physicians to go around and half of them are supplying two-thirds of our country's overburdened medical services, which will increase under the stimulus of a nationalized medical plan. It is proposed to divide this work up evenly among doctors by incorporating a quota system, with the result that there would be only half enough desirable physicians to go around. In choosing a physician, there will be a two-to-one chance that the choice must be made from a list of the more undesirable and incompetent doctors, particularly if the patient happens to be just a common man without influence.

8. *We pay the price in losing the human element in medical services.* Whenever a physician cannot administer to his patients as conscience and circumstances dictate, but is responsible to a higher directive for all his acts, he loses his incentive to practice humanitarian medicine. Autocracy does not recognize the necessity of sympathy

and measures a physician's value only by purely scientific achievements that can be reported on a piece of paper. A medical hireling would look on his patients as he looks at a piece of machinery. The kindly but not necessarily scientific art of honest medicine, with its administrations of sympathy and assurance, has cured as many ill and relieved as much suffering as the laboratory or operating room.

The art of medicine is well established as an important part of the American way of life. A subscription to political medicine would mean the consignment of body and soul for its preservation in times of illness to the type of services found in the cold corridors of a court house.

The American people desire adequate medical care in times of critical illness, not such services as are offered by schemes like the Wagner-Murray-Dingell bill, which proposes to take care of everything from hangnails to dandruff. Any plan so universal that it includes free care for minor or imagined illness is a reflection on the sponsor's knowledge of the character of medical service and the circumstances under which such service is rendered. On the other hand, if these ideologists insist that they are aware of these conditions and persist in an all-inclusive program as proposed in these bills, it becomes our privilege to suspect them of political machinations.

Socialized medicine will require huge sums of money for the distribution of many services of a questionable value. It will offer unprecedented opportunities for the acquisition of power. Many men desirous of power have seen this opportunity and are vigorously working for the adoption of these schemes in order to advance their present position to that of commissar of our nation's health and well being. The total regimentation of physicians and their facilities under a government controlled plan that would furnish medical care to everyone for everything is a first cousin to Communism. It is indeed deplorable that the Reds and pseudo-liberals have chosen for their approach the appeal that goes with a service dedicated to the preservation of life.

There are people who really need medical help and to whom our nation is trying to extend a helping hand. Under our system of free enterprise such persons have available a variety of medical service and hospital plans which will supply them with every reasonable need in times of critical illnesses. If, however, these people do not voluntarily avail themselves of one of these opportunities, then it may be necessary for our government to direct medical services in serious or prolonged illness, but not for every human ail-

STATE DEPARTMENT OF HEALTH

Walter L. Biering

BRUCELLOSIS OF MAN IN THE UNITED STATES AND IN IOWA

Data pertaining to the reported incidence of brucellosis of man or undulant (malta) fever in the United States have been made available through courtesy of state health officers of the forty-eight states and through Public Health Reports of the United States Public Health Service. Knowledge as to symptomatology, month of onset and duration of illness; residence, occupation, age and sex of patients; history of contact with livestock, use of dairy products (whether raw or pasteurized) and probable sources of infection—these and other items of information have been generously furnished over a period of years by Iowa physicians and veterinarians. The fact that human illness from this cause is currently at a high level (870 cases in 1947, through December 6, compared with an annual average of 396 cases for the seven year period 1940-1946) calls for ever closer cooperation of all agencies and individuals concerned, in the pursuance of measures for effective control and eventual eradication of brucellosis in farm animals.

Reported Occurrence in the United States

For the decade 1930-1939, reported cases of brucellosis of man in the United States, exclusive of the District of Columbia, averaged 2,386 cases per year, an annual rate of 1.99 per 100,000. Average annual reports totaled 4,078 during the period 1940-1946, or a rate of 3.11 per 100,000 population. This represents an increase of nearly 60 per cent in reported morbidity in the past seven years compared with the previous 10-year period.

The following table (Table I) presents the average annual total of cases of brucellosis of man and the average annual rates per 100,000 in the various sections of the United States for the fourteen year period 1930-1943 and the seven year period 1940-1946.

While nearly all of the individual states showed an increase in reported cases of brucellosis in recent years, North Carolina, the state with the lowest morbidity rate and significantly the only

TABLE I
BRUCELLOSIS IN THE UNITED STATES 1930-1946
Reported Morbidity Data Secured through Courtesy of
State Health Officers and from Published
Reports of the U. S. Public Health Service

States Area	Average Annual Cases	Annual Rate per 100,000	Average Annual Cases 1940-1946	Annual Rate
New England	175.5	2.08	274.5	3.25
Middle Atlantic	355.1	1.29	426.0	1.55
East North Central.....	487.7	1.33	807.0	3.03
West North Central.....	507.6	3.76	933.3	6.90
South Atlantic	209.1	1.22	288.5	1.68
East South Central.....	105.6	0.98	204.7	1.89
West South Central.....	436.1	3.34	598.4	4.58
Mountain	82.6	1.99	142.9	3.44
Pacific	248.4	2.56	403.9	4.15
U. S. A. TOTAL.....	2,607.7	1.09	4,079.2	3.11

state thus far accredited in the program for eradication of brucellosis in dairy cows, had a rate of 0.4 per 100,000 for the years 1930-1941 and of only 0.3 per 100,000 for the seven year period 1940-1946. Hogs apparently are but a minor source of infection in that state.

The ten states with the highest morbidity and the rates per 100,000 for the periods 1930-1946 and 1940-1946 are shown in Table II which follows:

TABLE II
BRUCELLOSIS OF MAN IN THE UNITED STATES 1930-1946
Ten States with Highest Reported Morbidity
for the 17-year Period 1930-1946 and the 7-year Period 1940-1946

State	Annual rate per 100,000 1930-1946	State	Annual rate per 100,000 1930-1946
Vermont	11.7	Vermont	18.5
Iowa	9.4	Iowa	15.6
Oklahoma	7.7	Kansas	9.6
Kansas	7.0	Minnesota	9.5
Texas	5.8	Oregon	6.9
Minnesota	5.7	Texas	6.9
Arizona	4.5	Wisconsin	6.5
Wisconsin	4.3	Connecticut	5.4
Connecticut	4.2	Utah	5.1
Oregon	4.1	Nevada	4.8

Reported Occurrence in Iowa

The annual morbidity rate from brucellosis in Iowa for the five year period 1935-1939 was 5.31 per 100,000. Due largely to increased pork and livestock production during World War II, with attendant increase in occasions for direct contact with animals, the rate rose to 15.6 per 100,000 for the seven year period 1940-1946.

The following table (Table III) contains annual totals of positive agglutination reactions as notified from the Iowa State Hygienic Laboratory

and of case reports in this state for the period 1940-1946 and thus far in 1947.

TABLE III
BRUCELLOSIS OF MAN IN IOWA 1940-1947
Annual Case Reports and Positive Agglutination Findings

Year	Reported Cases	Positive Agglutination 1-80 and above
1940	250	577
1941	354	691
1942	333	834
1943	418	646
1944	295	849
1945	482	1,045
1946	638	1,981
1947	871 (12-6-1947)	2,176 (1st 9 months)

In 1946, in addition to the 1,981 agglutination reactions in titers of 1-80 and above, serum specimens numbering 766 showed a doubtful reaction of 1-40. For the first 9 months of 1947, besides the 2,176 positive agglutination findings (see Table III), additional specimens with a doubtful titer of 1-40 totaled 819. The marked increase in positive laboratory reports for the current year is due in large measure to pre-employment and routine agglutination tests on packing house workers, in view of the new occupational disease law which went into effect beginning Oct. 1, 1947.

Seasonal Distribution of Brucellosis

The State Department of Health is indebted to Iowa physicians for detailed information relative to persons who have during past years suffered illness caused by brucellosis in animals. The distribution according to month of onset of illness

of 2,882 cases of brucellosis of man reported to the Iowa State Department of Health for the fourteen year period 1933-1946 is shown in the following table.

BRUCELLOSIS OF MAN IN IOWA—1933-1946
Distribution of 2,882 Reported Cases by Month of Onset of Symptoms

Month of Onset 1933-1946	No. of Cases 1933-1946	Month of Onset 1933-1946	No. of Cases 1933-1946
January	169	July	325
February	222	August	314
March	208	September	219
April	266	October	234
May	259	November	189
June	316	December	161
TOTAL		2,882	

As may be observed in the above table, undulant fever is definitely a disease, onset of which may occur in any month of the year. More patients have beginning symptoms during June, July and August than at any other similar period of the year. About 60 per cent of the patients become ill during the six month period, April through September, and 40 per cent from October through March.

Considering separately the month of onset of illness of individuals who give no history of contact with farm animals, the cases are distributed quite uniformly throughout the 12 months. Of a series of 509 such cases reported during the six year period 1941-1946, patients numbering 270 or 53 per cent developed illness during the warm months, April through September, while 239 (47 per cent) began to complain in the fall and winter months (October-March).

MORBIDITY REPORT

Disease	Nov. '47	Oct. '47	Nov. '47	Most Cases Reported From
Diphtheria	16	4	19	Howard, Muscatine, O'Brien
Scarlet Fever	152	52	119	Polk, Story, Webster
Typhoid Fever	1	14	2	Pottawattamie
Smallpox	0	0	0	.....
Measles	58	32	33	Lee, Muscatine, Winneshiek
Whooping Cough	79	84	76	Des Moines, Dubuque, Lee
Brucellosis	67	85	173	Black Hawk, Polk, scattered
Chickenpox	204	47	384	Black Hawk, Des Moines, Dubuque
German Measles	9	4	5	Des Moines, Johnson, Tama
Influenza	4	1	1	Mitchell
Malaria	0	4	2	.....
Meningitis	6	4	7	Scattered
Mumps	82	52	54	Linn, Pocahontas
Pneumonia	4	4	19	Black Hawk, Ida, Tama
Poliomyelitis	18	41	96	Clay, Polk, Woodbury
Tuberculosis	58	68	63	For the State
Gonorrhea	113	106	153	For the State
Syphilis	355	221	135	For the State

The JOURNAL of the Iowa State Medical Society

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No. 1

Another Year Ahead

Again it becomes the privilege of the editorial staff of the JOURNAL to express to its readers best wishes for the coming year.

As is customary in postwar periods, 1947 was not unusual in its quota of unrest. Although no national compulsory health bill was passed by the Congress, political activity continued strong in Washington to further governmental medicine.

The year was marked by an excellent survey of the state needs as outlined in the hospital construction act, with definite recommendations for the building of several badly needed county hospitals.

A revision of the salary schedule as applied at the medical school at Iowa City is a factor which has attracted much attention. The committee on medical education and hospitals has made a report to the State Society regarding this matter.

The cancer control division of the State Department of Health has been unusually active with the establishment of clinics throughout the state for cancer control. The Department has also been active in the control of tuberculosis through the use of mobile units which are available to any county society.

The Committee on Medical Service and Public Relations has arranged for signing the contract for home town care of veterans by family physicians. The Speakers Bureau likewise has been busy carrying out its program of postgraduate institutes.

At this time it is considered appropriate to pre-

sent the following toast prepared by Dr. Edward A. Holyoke, the first president of the Massachusetts Medical Society, on Aug. 13, 1928, on the occasion of his one hundredth birthday: "The State Medical Society—may it flourish and prosper. May it continue to improve the art for which it was instituted, to the utmost of its wishes, and be the means under Providence of alleviating the pains and evils of life, and promoting the happiness of Society by suppressing Quackery, and rendering the business of the profession as perfect as the nature of things admits. And may each individual of the Society enjoy health and prosperity in the pressing consciousness that he has contributed somewhat to the advancement and improvement of the public welfare."

Dr. Womack Professor of Surgery

The State University of Iowa College of Medicine has announced the appointment of Dr. Nathan Womack of St. Louis, Mo., as professor in the Department of Surgery.

Dr. Womack, who was born in Reidsville, N. C., May 24, 1901, was graduated from the University of North Carolina in 1922 and received his M.D. degree from Washington University two years later.

Most of his training was obtained in St. Louis where he was associated with Barnes Hospital as intern and resident. In 1929 he served as a traveling European fellow following which he returned to the Department of Surgery at Washington University School of Medicine where he has been the professor of clinical surgery.

Dr. Womack was a founder member of the American Board of Surgery in 1937 and has been a member of the examining committee since 1942. He is a member of the editorial board of the *Annals of Surgery*. In addition to his usual county medical affiliation, he is a member of the Southern Medical Association, St. Louis Surgical Society, American Surgical Association, Southern Surgical Association, American Association of Pathology and Bacteriology, American Gastroenterological Association, American Association for Cancer Research, Society of Experimental Biology and Medicine, Society of Clinical Surgeons, Halsted Club, Central States Surgical Association, Society of University Surgeons, Fellow of the American College of Surgeons, and Societe Internationale de Chirurgie.

The JOURNAL takes this opportunity to welcome Dr. Womack to Iowa and to extend best wishes for his success at the State University.

Penicillin Reactions

It has been apparent ever since its use that penicillin will produce skin manifestations and other toxic reactions in certain individuals receiving the drug. Another side reaction has recently made its appearance. This is a clinical toxic picture resembling pyogenic infection with daily chills, septic type of temperature and malaise. These reactions have appeared in surgical patients where no evidence of wound infection was apparent. One patient had undergone removal of a herniated disk following which a spinal fusion was performed. Another patient had undergone a prostatectomy. A third case, a child, was given penicillin empirically for an obscure myelopathy. In all three of these patients, the fever, chills and malaise promptly subsided upon discontinuance of penicillin.

It is not unusual to see patients who have been receiving penicillin for weeks and months. In view of these side reactions, it might be well to remember that certain individuals may develop toxic manifestations from the use of penicillin.

Nurses' Aid Training

The Rohlf Memorial Clinic at Waverly has instituted a definite course for training practical nurses. The state of Minnesota is conducting a similar program in several of its county units. This type of training is commendable in that it will afford some relief from the drastic need for nurses which now exists.

The program at the Rohlf Clinic consists of: (1) therapeutics, including toxicology and allied subjects, 18 hours—taught by a registered pharmacist; (2) nutrition—health and diseases, including the preparation and serving of foods, 24 hours—by M.D.; (3) maternity and child care, 18 hours—by M.D.; (4) postoperative care and practical surgical technic, 6 hours—by M.D.; (5) common diseases, causes and manifestations, 12 hours—by M.D.; (6) educational films, including nursing care, practical physiology, nutrition, etc., 24 hours—by M.D.; (7) nursing arts, 86 hours—by R.N.; (8) ethics, 12 hours—by R.N.; (9) recreational therapy, 12 hours; (10) hospital work including class work, 340 hours; (11) ward conferences, one per week for nine months, conducted by supervisor or head nurse in each department; (12) hospital service, total of nine months, forty hours per week, including class work.

In addition these girls are uniformed in a distinctive manner and will receive a local certificate at the time they have completed their work. Educational movies rented from the extension division

of the State University of Iowa are used weekly in the classroom.

It will be interesting to follow the success of this particular training program in Iowa.

HOSPITAL COMMITTEE OF H.S.I.I.

The Hospital Committee of Hospital Service, Inc., of Iowa has proved to be of inestimable value in hospital relations with our Blue Cross Plan. It has been functioning since 1945.

The first Board of Directors of H.S.I.I. was composed of a majority of Iowa Hospital Association members with representatives of the Iowa State Medical Society. This was a natural outgrowth of the labors of these associations to set up the Blue Cross Plan and to get enabling legislation for it. Very soon after the Plan went into operation the hospitals saw the need for putting business men on the Board. These were selected from their trustees and boards, which almost without exception have attracted the civic leaders in their communities. Consequently, this brought the best business minds of the area to the Board of H.S.I.I.

The Board of Directors itself is made up of 15 representatives of the hospitals, Iowa State Medical Society and the public. Twelve of these are elected by the hospital corporate members and three by the Iowa State Medical Society. Of the 12, eight are representatives of the hospitals and four of the public. Two of the Medical Society members are doctors and one represents the public.

In 1944 problems arose to indicate that a closer contact with the practical operations of the hospitals themselves was desirable, and the president, Joseph F. Rosenfield, appointed the first Hospital Committee. The purpose of the committee is to interpret to the Blue Cross Plan the needs and desires of the member hospitals as far as Plan policies are reflected in their operations and to aid in reporting to the member hospitals the purposes, policies and decisions of the Board of Directors of the Plan.

This committee is chairmaned by a member of the Board of Directors, Harold A. Smith, administrator of the Atlantic Memorial hospital, Atlantic, but otherwise is composed of administrative personnel of other member hospitals. The present members of the committee in addition to Mr. Smith are: Robert A. Nettleton, former administrator of Iowa Methodist hospital, Des Moines; Glen E. Clasen, assistant to the administrator of University Hospitals, Iowa City; Erwin W. Wegge, business manager of Moline Public Hospital, Moline, Ill.; Rubie M. Carlson, superintendent, Allen Memorial Hospital, Waterloo; Sister Mary Edmunda, superintendent, St. Joseph Mercy Hospital, Dubuque, and Mrs. Rose Jacobs, superintendent, Skiff Memorial Hospital, Newton.

Pertinent subjects discussed by the hospital committee have been monthly reports of Blue Cross to the hospitals, hospital employee groups, national enrollment, methods of payment to the hospitals, reciprocity agreements, proprietary hospitals and problems and interpretation of the subscriber's contract.

SPEAKERS BUREAU

HERMAN J. SMITH, M.D., Des Moines, *Chairman*

ROBERT N. LARIMER, M.D., Sioux City

HORACE M. KORNS, M.D., Dubuque

BEN F. WOLVERTON, M.D., Cedar Rapids

L. C. HICKERSON, M.D., Brooklyn

SPEAKERS BUREAU SERVICES

The Speakers Bureau provides, upon request, the following:

1. Speakers to discuss suggested subjects at meetings of county or district medical societies and lay organizations.
2. Assistance in planning and conducting postgraduate courses and institutes.
3. Medical and health films for professional and lay groups.

The Bureau also sponsors a medical program broadcast weekly over radio stations WOI, Ames, and WSUI, Iowa City.

The purpose of the Speakers Bureau is to render service. Requests for help are welcomed. Contact Speakers Bureau, 505 Bankers Trust Building, Des Moines 9, Iowa. Telephone 3-0928.

MOVING PICTURE AVAILABLE

"The Problem Child," a 16mm. sound and moving picture film has been written and produced by the American Academy of Pediatrics for distribution, free of charge, to responsible medical and lay organizations. The picture requires about twenty-five minutes running time. It covers a few of the common problems of growth and development and stresses some of the environmental factors, especially parental attitudes, which influence mental health. Feeding schedules, food habits, toilet habits and discipline of the two year old child are discussed and portrayed in the picture.

The Speakers Bureau will make arrangements for the use of this film upon request. Please list the date you would like to show the picture and allow a month for your order to be handled.

PLANS FOR 1948

With the start of a new year, the Speakers Bureau is planning a continuation of its educational efforts and an expansion of services to members of the State Medical Society. We hope that 1948 will bring about a reactivation of county medical societies; that they will have more meetings; and that there will be a greater participation in scientific and educational programs. The pressure of work has been great upon every doctor but we should realize the need for a certain amount of social contact with our colleagues as well as a brushing up on new technical advances. The Speak-

ers Bureau believes that when men sit down together at dinner and later participate in a scientific program each individual departs a better doctor. It is because of that conviction that the Speakers Bureau is planning its postgraduate course and educational institutes for the spring months.

A pediatric and obstetric institute will be held in Fort Dodge on Thursday, March 25, and at Sioux City on Thursday, May 6. Burlington is planning a cancer institute sometime after the first of the year and also a postgraduate course to be given the nights of April 28, May 5, and May 12. A postgraduate course of five lectures will be held at Creston starting March 3. They are as follows:

POSTGRADUATE COURSE—CRESTON

JAMES G. MACRAE, M.D., *Local Chairman*
Iowana Hotel

- March 3 The Treatment of Diabetes Mellitus
Henry T. Ricketts, M.D., Chicago, Associate Professor of Medicine, University of Chicago.
- March 10 RH Factor in Obstetrics
William C. Keettel, M.D., Iowa City, University Hospitals, Department of Obstetrics and Gynecology.
- March 17 Gastro-intestinal Diagnosis
J. Dewey Bisgard, M.D., Omaha
- March 24 Heart Block and Use of Quinidine
Horace M. Korn, M.D., Dubuque
- March 31 Encephalitis, Cerebral and Peripheral Nerve Diagnosis
Speaker not yet scheduled.

If there are other counties desiring any type of course or institute, the Speakers Bureau will be happy to hear from them. Best results are obtained when we have two months or more in which to procure speakers. Please don't ask us to arrange a course on a month's notice, for a good job cannot be done in that length of time.

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Wednesdays at 2:45 p. m.

WSUI—Thursdays at 11:45 a. m.

- Jan. 7-8 Winter Illnesses—Frostbite
Donald F. Rodawig, M.D., Spirit Lake, Iowa
- Jan. 14-15 Winter Illnesses—Common Head Cold
Elmer P. Weih, M.D., Clinton, Iowa
- Jan. 21-22 Winter Illnesses—Influenza
H. M. Hurevitz, M.D., Davenport, Iowa
- Jan. 28-29 Winter Illnesses—Pneumonia
Elmer G. Senty, M.D., Davenport, Iowa

NEWS NOTES

from the

Committee on Medical Service and Public Relations

American Academy of General Practice

There are several exciting causes of the present awakening of the general practitioner from the state of lethargy which has enveloped him throughout the past and brought him at long last to the realization that unless the large number of doctors who are doing general practice (85 per cent) are brought together in an organization founded on solid unquestioned principles, the status of the general practitioner will be relegated to that of the various cults which attach themselves to the fringe of the medical profession.

Today the great trend in medicine is toward specialization. That trend has become so prevalent, especially in the cities, that even the layman, when he meets a doctor elsewhere than in the office, immediately inquires what specialty the doctor practices.

A doctor spends ten years in premedical, medical, and internship education. Some may argue that this is sufficient preparation to begin working for a specialty board membership. However, this training, regardless of how thorough, does not produce the one attribute most needed in practicing the healing art—judgment. Judgment comes only from continuous daily contact with medical, surgical, and obstetric problems which sharpen the intellect, develop the power of observation, and broaden generally the young doctor's understanding of human nature.

When a conscientious and honest contractor contemplates erecting a building, he begins by selecting a firm footing. On this footing he builds a foundation and puts into it every known vehicle of strength and durability. In the building of a doctor I believe his premedical and medical work represents the footing, while his internship, residency, and at least five years of general practice constitute the foundation. With that on which to stand he is equipped to continue in general practice or begin intensive work for some specialty of his choice.

General practice has no grievance with specialization, and I do not believe that the specialist depreciates the great need for high type, well trained doctors doing general practice. Each is

needed by the other. But when hospitals begin closing their doors to a doctor unless he is a diplomate of some specialty, and government starts the agitation for socialization of medicine, it is high time counter activities are begun.

The first attempt at general practice organization was made in Wayne County, Michigan, some fifteen years ago. The project, being then something quite new, was at first frowned upon and termed bolshevistic, communistic, and ultraradical! But after many serious and unselfish conferences with specialist leaders in the Wayne County Medical Society, of which Detroit is the hub, all selfish interests and personalities were put aside, the general practitioners received places on the Council, and Dr. W. B. Harms became president of the Wayne County Medical Society. Incidentally, to Dr. Harms of Detroit belongs most of the credit for this early organization work. Through the efforts of Wayne County, a General Practice Section was established in the Michigan State Medical Society.

Through both of these organizations, resolutions were presented to the House of Delegates of the American Medical Association for five years before a Scientific Section on the General Practice of Medicine was finally established. The Section on General Practice of the American Medical Association is primarily a scientific section but it does have a delegate to the House of Delegates who can introduce any resolution to that body from the Scientific Section. At the San Francisco meeting a resolution was introduced for the recognition of general practice sections in hospitals. It failed. However, in San Francisco last year the general practitioners present at the scientific session recommended that a national association of general practitioners independent of the American Medical Association be formed on a basis similar to the various specialty colleges. Whether the doctors from long suffering were more eager to grasp the lifeline of general practice organization at this time than at other times in the past I am not prepared to say. It seemed to click, however, and at once activities throughout the country began. Independent

sections during the past year have been formed in San Francisco, Los Angeles, Cincinnati, Minnesota, Louisiana, and in my own city of St. Louis.

In St. Louis great enthusiasm has been shown in establishing the Section on General Practice of Medicine of Greater St. Louis. We have at present more than 200 paid members and I am sure we will add another 100 during the coming year. My reasons for such optimism is that with our present roster of exceedingly prominent speakers I fail to understand how a doctor in our area can afford not to be a part of the Acedamy. Also, in May of this year the Executive Council began publishing a news letter, entitled "News and Views," which sets forth all worth-while items and events which might be of medical interest.

All the foregoing naturally leads to the crowning event in general practice organization. That took place at the American Medical Association meeting in Atlantic City. At the San Francisco meeting in 1946 the general practitioners there assembled decided to create an association outside the American Medical Association for doctors in general practice. Dr. Paul Davis of Akron, Ohio, was elected temporary chairman. A committee was instructed to draw up a constitution and by-laws to be presented to a meeting of all general practitioners attending the convention at Atlantic City in June of this year. Between 150 and 200 doctors in general practice met on the evening of June 10, 1947, listened to the reading of the constitution and by-laws, and voted unanimously for their adoption. Officers were elected, the name for the organization decided, and without fanfare or disturbance there came into existence the American Academy of General Practice.

Everyone left Atlantic City imbued with a kind of exalted spirit of achievement and from the president through all the officers and delegates there seems to be the desire to make the American Academy of General Practice second to none in medical organization through the entire country. A recent communication from Dr. Davis states that applications for membership are coming in at the rate of 100 to 150 a week.

If socialized, state, or government controlled medicine is thwarted, it will and *must* be done through the organization of that great 85 per cent of doctors in general practice, and the unselfish cooperation of that organization with all specialist groups.

Robert C. McElvain, M.D., St. Louis

THE PRICE OF GOVERNMENT MEDICINE

(Continued from page 24)

ment. The administration of such a plan, however, should not be in the hands of our federal government but left to the states, each to work out its own medical care problem to comply with its peculiar geographic or environmental situation.

Socialized medicine, political medicine, or whatever it is called, has a price too high in inherited liberties. It can never approach in value the benefits of the present system of free enterprise.

AMERICAN COLLEGE OF SURGEONS ANNOUNCES SIX SECTIONAL MEETINGS

Dr. Arthur W. Allen, president of the American College of Surgeons, announces the scheduling of six sectional meetings in 1948 for Fellows of the College, the medical profession at large, and hospital personnel. Each meeting will be two days in length and will include conferences for hospital personnel as well as sessions for the medical profession. The showing of medical motion pictures will begin each day's program at 8:30 a. m. There will be luncheon meetings each day and a dinner meeting on the first evening. The latter will be followed by a symposium on cancer. Panel discussions on scientific subjects, led by internationally known authorities in each field of surgery, will be held each morning and afternoon. The list of meetings follows:

Toledo—January 20-21, Commodore Perry Hotel.

Atlanta—January 26-27, Ansley Hotel.

Oklahoma City—Jan. 30-31, Oklahoma Biltmore Hotel.

Denver—March 1-2, Cosmopolitan Hotel.

Minneapolis—March 15-16, Hotel Nicollet.

Halifax—May 17-18, The Nova Scotian.

Among the subjects to be discussed at the scientific sessions will be fractures of the upper and lower extremities; pediatric surgery; importance of the use of blood and fluids and of adequate nutrition in surgery; early diagnosis and proper treatment of cancer; organization and functioning of cancer clinics and cancer detection centers; intestinal obstruction; management of wounds, surgical incisions and fresh traumatic wounds; urologic surgery; plastic surgery; vascular surgery; and panel operations on elderly patients with special reference to the reduction of the surgical risk.

Among the subjects which will be discussed at the hospital conference will be the increasing use of hospitals; expansion of hospital facilities; higher standards of training for hospital administrators; improvement in personnel policies; increasing cost of hospital service; better rural hospital service; coordination of hospital with health and welfare activities in the community; Blue Cross and medical service plans, and decreasing average days' stay in hospitals.

VETERANS ADMINISTRATION

Medical Department, Des Moines Hospital

The medical department of the Veterans Hospital in Des Moines, like the other professional departments of the institution, strives to attain one goal: to give each veteran entitled by law to medical care the best available medical service. This is a difficult goal to reach, for medical science is vast and new and better methods of handling the sick are constantly being developed.

In order to give the sick veteran the best possible medical care to the end that he may be restored to health with the least delay if his illness is curable, or be made as comfortable as care and science can make him if his disease is incurable, the available space at the Veterans Hospital has been divided into the following wards: (1) diseases of the chest and vascular system; (2) gastro-intestinal and metabolic diseases; (3) infectious diseases; (4) general medical ward; (5) neuropsychiatric ward; (6) convalescent ward. Each ward has a bed capacity of from forty to fifty.

The professional personnel consists of a chief of medicine, three consultants in internal medicine, five ward physicians, two full time Veterans Administration physicians, and from ten to fifteen resident physicians. The chief of medicine and the consultants have held certificates from the Board of Internal Medicine for some time. All the ward physicians have passed either all or part of their Board examinations. The residents are carefully selected, well trained men who are acquiring more knowledge and experience as they strive to practice ideal medicine on the ward.

During the year which is now coming to a close we have had approximately 2,900 admittances to the department of Medicine, and the average stay in the hospital has been about twenty-eight days—this in spite of the fact that we maintain a convalescent ward for persons who should have domiciliary care but who cannot be sent to domiciliary homes because beds are not available for them.

Without the slightest bit of doubt the most effective factor for the promotion of the practice of ideal medicine in this institution is our resident training program. This program increases the knowledge and experience of each participant in direct proportion to his individual participation

in it. Since the residents take the most active part they naturally benefit most, but the benefits accruing to ward physicians, consultants, and the chief of medicine are also great. And every bit of applicable new knowledge at once redounds to the patient's benefit.

The training program consists of general staff meetings on Monday, medical ward rounds on Tuesday, clinical-roentgenologic conferences on Wednesday, clinicopathologic conferences on two evenings a month on Thursday, reviews of recent literature twice a month on Thursday, and medical conferences on Friday. In addition, each resident who is not actively engaged in clinical research of his own is required to write a summary of the recent literature on a subject of his own choosing every three months. At the present time six of the residents in medicine are devoting part of their time to various clinical research problems of their own choosing.

This training program is available to all physicians in Des Moines and to all visiting physicians, and all are welcome to attend and participate in our discussions. It is felt that such visits will be beneficial to the medical personnel of the institution as well as to the visiting physicians.

Daniel J. Glomset, M.D.

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

Meeting of the Committee on Medical Service and Public Relations

November 23, 1947

The Committee on Medical Service and Public Relations held an informal meeting in the Lowry Hotel in St. Paul on Sunday morning, November 23. Those present were: Doctors Fred Sternagel, Martin I. Olsen, R. D. Bernard, D. C. Conzett and R. C. Gutch of the committee; H. A. Spilman, president; J. E. Reeder, president-elect; Robert L. Parker, assistant secretary; T. F. Thornton, delegate; Charlotte Fisk, and Mr. T. A. Hendricks of the Council on Medical Service of the American Medical Association.

The revised fee schedule of the Division of Vocational Rehabilitation was reviewed and approved; expansion of the public relations work of the committee was discussed and it was voted to ask the trustees for additional funds in 1948 to do more field work and make more professional contacts. Iowa Medical Service problems were also discussed. The meeting adjourned at 10 a. m.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS FRED MOORE, 634 40th St., Des Moines 12

President-elect—MRS. A. G. FELTER, Van Meter

Secretary—MRS CHARLES A. NICOLL, Panora

Treasurer—MRS. M. A. ROYAL, 1138 Thirty-seventh Street, Des Moines 11

PROGRAM SUGGESTIONS

The program committee, in making a survey of the Auxiliaries to the Iowa State Medical Society, finds that its members have much work to do. Programs must therefore be prepared to aid members to meet their responsibilities and to fulfill the purposes and objective as given in our National Auxiliary constitution. We know what a tremendous influence women can exert in their communities, and it is our responsibility that right attitudes toward the medical profession be formed.

There is a decided interest of lay members of women's organizations (such as Women's Clubs, the Parent-Teacher Associations, and Legion Auxiliaries which parallel those of our auxiliary) in the advancement of the prevention of disease and better legislation pertaining to health and welfare. We are members of an organization with authentic information at our hands; hence, the greater our responsibility collectively and individually to disseminate information in order that the individual and community understanding of medicine and its scientific achievements will be understood. In the proportion we meet our responsibility will our organization be of value to mankind and the medical profession. Therefore the general objectives of our program are:

1. To mould public opinion with correct information.
2. To know what the medical profession means to the human race.
3. To learn what the community can do to improve its health by understanding work of existing services of other groups and evaluating the community needs.
4. To be prepared to discuss public health matters on any occasion.
5. To build a feeling of friendship between the doctors and wives.

Definite program suggestions and resource material have been prepared by the program committee and will be sent to all members.

LEGISLATIVE TIPS

Congress is in session again. As doctors' wives, we should watch and be ready to lend our influence in the right direction in regard to medical legislation. The Taft and the Wagner-Murray-Dingell Bills for National Health will inevitably reappear

for discussion. E. J. McCormick, M.D., condensed the doctors' viewpoint on federalized medicine very concisely in an article "Doctor, U. S. A." which appeared in the February, 1947 issue of "Elks Magazine" in response to Senator Wagner's "Clinic, U. S. A." in the January, 1947 issue of the same magazine. He stated:

"Despite the claims of Mr. Wagner and his associates, voluntary prepayment plans are giving and will give better service at less cost than any form of compulsion. Subscribers to voluntary plans have increased as much as 365 per cent in some cases. Old-line insurance companies are making plans to cover greater numbers of the urban and rural populations. Compulsion is un-American and undemocratic. With a staggering national debt, an enormous government pay roll and with an ever growing federal personnel the taking over of the Blue Cross and this country's great voluntary hospital system, as well as the doctors, nurses and dentists, would in all probability be the blow capable of breaking the morale of the American taxpayer.

"American doctors have endorsed such proposed legislation as the Hill-Burton Bill and favor other progressive legislation and appropriations which give to the American people more hospitals and health centers and which will extend and improve medical research and education. We favor federal aid to states where need is demonstrated, but we are unalterably opposed to regimentation of medicine, dentistry, labor or any other group by the federal government.

"Much of our illness is not dependent on medical science but on the need for higher standards of living extended to a greater number of people. Nutrition, housing, clothing and recreation are as essential to health as good medicine, and no amount of political or socialized medicine will counteract the lack of these essentials."

It might be apropos at this point to state that the voluntary medical plan has been more than successful in Iowa. Iowa Medical Service reports a net enrollment of 35,432 as of Dec. 1, 1947 which is an increase of more than 3,000 during the month of November. There are subscribers in 71 counties in Iowa (Bulletin of Polk County Medical Society, December, 1947).

The United States Chamber of Commerce has prepared some general tips for writing your Congress-

man. They are worth reading and remembering, so we pass them on to you.

1. Address him as The Honorable, M. C. (Member of Congress) or U. S. S. (U. S. Senator)—and be sure who is what. Address senators, Senate Office Building, Washington, D. C., and representatives, House Office Building, Washington, D. C.
2. Be local. Tell him how a national question affects your business, your industry, your community.
3. Be businesslike, brief but not terse.
4. Be specific; if you're for something, say so. If not, don't hedge.
5. Be polite; congressmen deserve dignified treatment.
6. Be reasonable; seek only possible things.
7. Be yourself; use your own letterhead and letter style.
8. Request action; your man is elected to do something.
9. Ask for an answer; you've told him where you stand, now ask him where he stands.
10. Be appreciative; thank him for good votes; compliment his better speeches, and praise his staff, too.

RECOMMENDED READING

Dr. E. L. Bortz, President of the A.M.A. urges Auxiliary members to study the book, *Medicine in The Changing Order*.

The Board of Trustees of the A.M.A. recommends the provocative legislative material on medicine which is being distributed by Shearin Medical Legislative Service, 610 Columbian Building, Washington 10, D. C. Weekly service available at \$15 will probably not appeal to doctors' wives as much as Marjorie Shearin's *Blueprint for the Nationalization of Medicine* at 25 cents per copy.

NOMINATING COMMITTEE

At the fall board meeting, the nominating committee for state Auxiliary officers was selected. In accordance with the constitution, three members were appointed by the president and two were elected from nominations made by committee chairmen. The appointments by the president were Mrs. James A. Downing, Des Moines, chairman; Mrs. Edward A. Hanske, Bellevue, and Mrs. Jay C. Decker, Sioux City. Mrs. H. I. McPherrin of Des Moines and Mrs. Howard W. Smith of Woodward were elected by ballot from nominations made by committee chairmen. All Auxiliaries are asked to send recommendations to Mrs. Downing.

NURSES' LOAN FUND

If you read your last News Page you learned that your auxiliary has one nurse in training at Iowa Lutheran Hospital in Des Moines and another one at Iowa City who will be our responsibility by Janu-

ary, 1948. This gives us a wonderful feeling to know that we are helping these girls take this training which will make them invaluable to humanity.

To finance this, your board of directors voted that each Auxiliary be responsible for fifty cents per member per year and I am happy to report that several auxiliaries have already done their bit. Dallas-Guthrie was first to report and they didn't stop at fifty cents per member; they made it one dollar, a total of \$14.50. Fort Dodge was next with \$8.50 and Polk is very busy buying and selling clever little bill-folds to help earn their money. You, too, may use this means of meeting your obligation if you will write your chairman, Mrs. William Hornaday, 612 Forty-fourth Street, Des Moines, Iowa.

MEMBERS AT LARGE—You too may help us in this project by sending your contribution to your chairman. You may also contact your schools and secure the names of any girls interested in nursing. As a committee of one your responsibility is great, and we are counting on your help. Further information will be sent upon request.

Mrs. William R. Hornaday, Chairman

ACTIVITIES OF COUNTY AUXILIARIES

Cerro Gordo County

Doctors' wives in Cerro Gordo and neighboring counties were guests of the Cerro Gordo County Medical Society at a dinner meeting in connection with the cancer institute held in Mason City November 11.

Mrs. L. William Swanson, chairman, with Mrs. Harry G. Marinos, Mrs. Draper L. Long, and Mrs. Soren S. Westly made arrangements for the meeting. The program of the Iowa Cancer Society was presented by Mr. White, executive director, and Mrs. Fred Moore spoke on the Woman's Auxiliary.

Montgomery County

The Montgomery County Medical Society and Auxiliary met for a Christmas dinner December 11 at the Hotel Johnson, Red Oak, after which the members were entertained in the home of Dr. and Mrs. F. A. Hansen. Each group held the yearly business meeting. The Auxiliary voted to give one dollar per capita to the Nurse's Loan Fund, and to give added support to the Hygeia program. Officers elected for the coming year were: Mrs. H. C. Bastron, president; Mrs. H. Borre, vice president; and Mrs. E. M. Sorensen, secretary-treasurer.

Marian E. Nelson

Polk County

The Woman's Auxiliary to the Polk County Medical Society met November 21 for luncheon and bridge at Younkers Tea Room. The Polk County Auxiliary has taken on several projects for the coming year. At the present time several of the members are helping in the Christmas Seal booths throughout Des Moines. In the spring the Auxiliary in conjunction with the Iowa Society for Crippled

(Continued on page 40)

HISTORY OF MEDICINE IN IOWA

Edited by the Historical Committee

DR. WALTER L. BIERRING, Des Moines, Chairman

DR. HENRY G. LANGWORTHY, Dubuque, *Secretary*

DR. CHARLES L. JONES, Gilmore City

DR. CLYDE A. HENRY, Farson

DR. LESTER C. KERN, Waverly

Dr. Charles H. Morse, Eagle Grove, Oldest Practicing Physician in Iowa

WALTER L. BIERRING, M.D., Des Moines

In the illustrated Graphic of the Chicago Sunday *Tribune*, Oct. 19, 1947, appeared the interesting story entitled "For 66 Years an Iowa Doc," and gave a graphic account of Dr. Charles H. Morse of Eagle Grove as an active practitioner of medicine at 92 years of age.

Among the illustrations is the medical school graduating class of 1881 University of Iowa, comprising a group of eight young physicians. Among them we note Dr. Max E. Witte, later superintendent of the State Mental Hospital at Clarinda; Dr. William L. Allen of Davenport, well known surgeon of his period and former president of the Iowa State Medical Society; and Dr. Peter Joor for more than 50 years a general practitioner at Maxwell, Iowa.

Dr. Morse came to Eagle Grove in the spring of 1881, and has practiced there ever since. He is quoted as speaking of his future home as "—frog pond," but he lived to see and have a large part in the draining of the swamps, building of permanent roads, and making Eagle Grove a happy place in which to live.

The *Tribune* account describes many interesting experiences common to the pioneer physician, such as driving in one day 100 miles to Luverne, back to Eagle Grove, to Vincent and back again just in time to start a new day; of swimming the Boone river with his hypodermic, morphine and atropin wrapped in a rubber sheet strapped on his back, relieving a woman patient with cholera morbus, and swimming the river again on the return trip. For many years he was a member

of the school board and had an active part in the civic and social progress of his home city. Historically it is stated that he was born at Maquoketa, Iowa, Jan. 1, 1856; he read medicine with Dr. Powers of Parkersburg.

Dr. Morse is proud of his part in stimulating a petition to the Board of Regents of the State University for a more graded course of medical study, which was instituted during his senior year. His frequent attendance at postgraduate courses in Chicago and eastern medical centers is a further attest of his constant endeavors to keep in the midcurrent of medical progress. He was one of many who greatly admired the late Dr. W. W. Bowen of Ft. Dodge, and an enthusiastic participant at the testimonial dinner extended to Dr. Bowen a few years ago.

Dr. Morse acquired his first automobile in 1906, and since then has had fourteen cars.

From 1909 until after the close of World War I he built and operated with Dr. W. C. Grath the first hospital in Eagle Grove. After the death of his colleague he discontinued the hospital.

His obstetric service numbered more than 1,500 newcomers. It has been the privilege of Dr. Morse to witness the greatest progress of medical science, to contribute in no small means to the advancement of medicine in Iowa, and to gain the affectionate regard of professional colleagues and the love of patients and friends all along the way.

May he enjoy many more years of joyful living and useful labor.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- DISEASES OF THE NOSE, THROAT AND EAR**—By William Lincoln Ballenger, M.D., F.A.C.S., Late Professor, School of Medicine, University of Illinois, Chicago; and HOWARD CHARLES BALLENGER, M.D., F.A.C.S., Associate Professor and Acting Chairman of the Department of Otolaryngology, Northwestern University School of Medicine, Chicago; Surgeon, Department of Otolaryngology, Evanston Hospital, Evanston, Ill.; assisted by JOHN JACOB BALLENGER, B.S., M.D., Research Fellow in Otolaryngology, Northwestern University School of Medicine, Chicago, Ninth edition. Lea & Febiger, Philadelphia, 1947. Price, \$12.50.
- THE FOOT AND ANKLE: Their Injuries, Diseases, Deformities and Disabilities**—By Philip Lewin, M.D., F.A.C.S., Associate Professor of Bone and Joint Surgery, and Acting Head of Department, Northwestern University Medical School; Professor of Orthopedic Surgery, Postgraduate Medical School of Cook County Hospital; Attending Orthopedic Surgeon, Cook County Hospital; Consulting Orthopedic Surgeon, Municipal Contagious Disease Hospital, Chicago; Formerly Colonel, Medical Arts Corps, Army of United States; Senior Attending Orthopedic Surgeon, Michael Reese Hospital. Third edition. Lea & Febiger, Philadelphia, 1947. Price, \$11.
- GIFFORDS TEXTBOOK OF OPHTHALMOLOGY**—By Francis H. Adler, M.D., Professor of Ophthalmology, University of Pennsylvania Medical School. Fourth edition. W. B. Saunders Co., Philadelphia, 1947. Price, \$6.
- HOW LIFE IS HANDED ON**—By Cyril Bibby, M.A., M.Sc., F.L.S., Senior Lecturer at the College of St. Mark and St. John, London; Sometime Scholar of Queen's College, London; Author of "Sex Education: A Guide for Parents, Teachers, and Youth Leaders." Emerson Books, Inc., New York, 1947. Price, \$2.
- LABORATORY MANUAL OF MICROBIOLOGY FOR NURSES**—By Elizabeth S. Gill, B.S., R.N., Instructor in Nursing, Department of Nursing, College of Physicians and Surgeons, Columbia University, New York; and JAMES T. CULBERTSON, Ph.D., Professor of Bacteriology and Parasitology, University of Arkansas School of Medicine, Little Rock, Ark.; formerly Assistant Professor of Bacteriology, College of Physicians and Surgeons, Columbia University, New York. G. P. Putnam's Sons, New York, 1947. Price, \$1.50.
- PHARMACOLOGY THERAPEUTICS AND PRESCRIPTION WRITING for Students and Practitioners**—By Walter Arthur Bastedo, Ph.G., Ph.M. (Hon.), M.D., Sc.D. (Hon.), F.A.C.P., Consulting Physician, St. Luke's Hospital, Staten Island, and the Staten Island Hospital; President, United States Pharmacopoeial Convention 1930-1940; Member of Revision Committee, U. S. Pharmacopoeia. Formerly Curator of the New York Botanical Garden, Attending Physician, City Hospital, New York, Instructor in Pharmacology, Cornell University, Associate in Pharmacology and Therapeutics, and Assistant Clinical Professor of Medicine, Columbia University. Fifth edition. W. B. Saunders Co., Philadelphia, 1947. Price, \$8.50.
- A PRIMER OF CARDIOLOGY**—By George E. Burch, M.D., F.A.C.P., Associate Professor of Medicine, Tulane University School of Medicine; Senior Visiting Physician, Charity Hospital; Consultant in Cardiovascular Diseases, Ochsner Clinic; Visiting Physician, Touro Infirmary, New Orleans; and PAUL REASER, M.D., Instructor in Medicine, Tulane University School of Medicine; Assistant Visiting Physician, Charity Hospital, New Orleans. Lea & Febiger, Philadelphia, 1947. Price, \$4.50.
- SURGICAL DISORDERS OF THE CHEST: Diagnosis and Treatment**—By J. K. Donaldson, B.S., M.D., F.A.C.S., (Lt. Col., A.U.S.) Diplomat American Board of Surgery; Associate Professor of Surgery and in Charge of Thoracic Surgery, University of Arkansas School of Medicine, e.c., Surgical Staff, St. Vincent's Infirmary and Visiting Staff, Baptist Hospital, Little Rock, Arkansas. Formerly Thoracic Surgeon to Arkansas State Hospital for Nervous Diseases; Associate Surgeon, Robert B. Green Hospital, Visiting Surgeon to Santa Rosa, Nix, and Medical Arts Hospitals, San Antonio, Texas. Second edition. Lea & Febiger, Philadelphia, 1947. Price, \$8.50.
- SYNOPSIS OF OBSTETRICS AND GYNECOLOGY**—By Aleck W. Bourne, M.A., M.B., B.Ch. (Camb.), F.R.C.S. (Eng.), F.R.C.O.G., Consulting Obstetric Surgeon, Queen Charlotte's Hospital, London; Obstetric Surgeon, St. Mary's Hospital, London; Consulting Surgeon, Samaritan Hospital for Women; Examiner in University of Cambridge; formerly Examiner to Central Midwives Board, and Joint Board of England. Ninth edition. The Williams and Wilkins Company, Baltimore, 1945. Price, \$5.
- A TEXTBOOK OF CLINICAL NEUROLOGY with an Introduction to the History of Neurology**—By Israel S. Wechsler, M.D., Clinical Professor of Neurology, Columbia University, New York; Neurologist, the Mount Sinai Hospital; Consulting Neurologist, Montefiore Hospital and Rockland State Hospital, New York. Sixth edition. W. B. Saunders Co., Philadelphia, 1947. Price, \$8.50.
- A TEXTBOOK ON PATHOLOGY OF LABOR, THE PUEPERIUM, AND THE NEWBORN**—By Charles O. McCormick, A.B., M.D., F.A.C.S., Clinical Professor of Obstetrics, Indiana University School of Medicine; Consulting Obstetrician to William H. Coleman Hospital for Women, Indianapolis City Hospital, and Sunny Side Sanitarium. Second edition. The C. V. Mosby Company, St. Louis, 1947. Price, \$8.50.
- UNIPOLAR LEAD ELECTROCARDIOGRAPHY: Including Standard Leads, Unipolar Extremity Leads and Multiple Unipolar Precordial Leads**—By Emanuel Goldberger, B.S., M.D., Adjunct Physician, Montefiore Hospital, New York; Cardiographer and Associate Physician, Lincoln Hospital, New York; Diplomate of the American Board of Internal Medicine; Clinical Lecturer in Medicine, Columbia University, Faculty of Medicine. Lea & Febiger, Philadelphia, 1947. Price, \$4.
- THE 1947 YEAR BOOK OF PEDIATRICS**—Edited by Isaac A. Abt, D.Sc., M.D., Emeritus Professor of Pediatrics, Northwestern University Medical School; Consulting Physician, Children's Memorial Hospital, St. Luke's Hospital and Michael Reese Hospital, Chicago; with the collaboration of ARTHUR F. ABT, M.D., Associate Professor of Pediatrics, Northwestern University Medical School; Attending Pediatrician, Michael Reese Hospital; Attending Pediatrician, La Rabida Jackson Park Sanatorium; Consultant in Pediatrics, Chicago Board of Health and Consultant in Pediatrics, Great Lakes Naval Hospital, Great Lakes, Ill. The Year Book Publishers, Inc., 1947. Price, \$3.75.
- 400 YEARS OF A DOCTOR'S LIFE**—Collected and arranged by George Rosen, M.D., and Beate Caspari-Rosen, M.D. Henry Schuman, New York, 1947. Price, \$5.

BOOK REVIEWS

INFANT NUTRITION

By P. C. Jeans, A.B., M.D., Professor of Pediatrics, College of Medicine, State University of Iowa, Iowa City; and WILLIAM MCKIM MARRIOTT, B.S., M.D., Late Professor of Pediatrics, Washington University School of Medicine; Physician in Chief, St. Louis Children's Hospital, St. Louis. Fourth edition. The C. V. Mosby Company, St. Louis, 1947. Price, \$6.50.

In the fourth edition of his text, *Infant Nutrition*, Dr. Jeans records the advancements made in infant nutrition since 1941, the date of the previous edition.

The author summarizes the nutritional requirements of the normal and sick infant. He describes the characteristics of the various food elements and discusses the processes of digestion and absorption in infancy and the variation of these processes in disease. Common infectious diseases are discussed specifically and their relation to nutrition made evident. Most of the strictly nutritional diseases of infancy are discussed in detail. Various methods of the artificial feeding of infants are presented as well as a discussion of breast feeding. Mineral and water metabolism are reviewed.

The text includes a well illustrated chapter on

technical procedures in infancy. A list of drugs frequently used in infancy and their dosages are given. A chart of fluids for parenteral use is presented with maximum quantity, route, rate, and indications listed for each fluid.

The book is authoritative, concise and readable. It fulfills the desire of its author that it be useful to the medical student and practitioner.

J. McM.

HEADACHE

By Louis G. Moench, M.D., Assistant Clinical Professor of Medicine, University of Utah School of Medicine; Internist, Salt Lake Clinic, Salt Lake City. The Year Book Publishers, Inc., Chicago, 1947. Price, \$3.50.

This short, well illustrated volume of 200 pages divided into ten excellently arranged and easily read chapters is one of the General Practice Manuals. It is pleasantly complete.

The author compiles in this book what information is at present available on headache from his own brilliant research and that of Lewis, Wolff, Von Storch, Lennot and Horton.

The fact that headache is man's most common complaint and is the result of so many diverse conditions makes this one of the few really essential books in any physician's library.

L. G.

HISTORY OF MEDICINE

By Cecilia C. Mettler, A.B., Ed.B., A.M., Ph.D., Late Assistant Professor of Medical History, University of Georgia, School of Medicine, and Late Associate in Neurology, College of Physicians and Surgeons, Columbia University. Edited by FRED A. METTLER, A.M., M.D., Ph.D., Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University. The Blakiston Company, Toronto, 1947. Price, \$8.50.

This volume is replete with well documented notes regarding the history of medicine, presented by a well qualified author. Specialized subjects include anatomy and physiology, pharmacology, pathology and bacteriology, physical diagnosis, medicine, neurology and psychiatry, venereology, dermatology, pediatrics, surgery, obstetrics and gynecology, ophthalmology, otology and rhinolaryngology.

E. M. G.

A HAND-BOOK OF OCULAR THERAPEUTICS

By the late Sanford R. Gifford, M.D., F.A.C.S., Professor of Ophthalmology, Northwestern University Medical School, Chicago; revised by DERRICK VAIL, M.D., D.O. (Oxon.), F.A.C.S., Professor of Oph-

thalmology, Northwestern University Medical School, Chicago, Ill. Fourth edition, thoroughly revised. Lea & Febiger, Philadelphia, 1947. Price, \$5.

The above title is completely expressive of the contents of this valuable book. The method of presentation of the facts concerning diagnosis and treatment of ocular diseases is easily readable and concisely written. The "meat" is obtainable without too much reading of voluminous pages of material.

The grouping of subject matter is very good, and the fact that there is no chapter on disorders of muscular apparatus adds to the effectiveness of this particular work rather than detracting from it.

Another interesting feature is that neither the author nor the revisor has gone "overboard" on sulfa drugs and penicillin but has presented them in a very conservative manner.

It is felt that this book, printed in large easily readable type, completely fills the need for which it was originally compiled.

G. S. M.

DIABETIC GUIDE

By E. B. Winnett, M.D., Des Moines, and A. G. Lueck, M.D., Des Moines. American Lithographing and Printing Co., Des Moines, 1947. Price, \$1.75.

The authors have made available to the diabetic patient a valuable reference manual. Its size and compactness permits ready accessibility, a factor so important to the new diabetic. The lucid manner in which the various phases of the management and especially the complications of diabetes is handled should assist greatly in assuring the patient of having a more competent control of his problem.

The part devoted to the historical phase of diabetes, the various diet lists, and the tables of equivalents and substitutions provide the patient with the necessary information relative to his disorder.

Doctors Winnett and Lueck are to be commended for their successful effort in bringing this timely booklet to the diabetic patient.

G. E. M.

SEX POWER IN MARRIAGE With Case Histories

A realistic analysis concerning the sexual and emotional problems of marriage. By EDWIN W. HIRSCH, B.S., M.D. Research publications of Chicago, 1947. Price, \$3.

This volume outlines the methods used by its author in analyzing and treating the sexual and emotional problems of marriage. A pattern of life adjustment has proven most helpful in the treatment of these problems. Numerous case reports are presented.

E. M. G.

SOCIETY PROCEEDINGS

MEETINGS

Black Hawk County

The annual business meeting of the Black Hawk County Medical Society was held at 6 p. m. December 2 at the Elks Club, Waterloo. New officers were elected.

Butler County

Newly elected officers of the Butler County Medical Society are Dr. B. V. Anderson, Greene, president; Dr. E. M. Mark, Clarksville, vice president; and Dr. F. F. McKean, Allison, secretary-treasurer.

Cerro Gordo County

Dr. Draper Long of Mason City was elected president of the Cerro Gordo County Medical Society at the annual dinner meeting held at the Green Mill. Dr. L. W. Swanson was named vice president; Dr. J. W. Lannon, secretary; and Dr. H. G. Marinos, treasurer. Speakers at the meeting were Wilbur R. Quinn, Des Moines, executive director of Iowa Medical Service, Inc., and Frank Nicols, Des Moines, special representative of Hospital Service, Inc., of Iowa.

Greene County

The Greene County Medical Society met for 6:30 p. m. dinner November 17 at the Woman's Club House. Guests of the group were the Greene County Nurses' Association, Greene County hospital board, and the hospital superintendent. Miss Jessie Norelius of Des Moines, executive secretary of the Iowa State Nurses' Association, spoke on "Nursing and Its Professional Standing in the World Today."

Hancock Winnebago Society

At a meeting of the Hancock Winnebago Society held December 8 the following officers were elected: Dr. David Shaw, Britt, president; Dr. Ivan E. Brown, Forest City, secretary-treasurer.

Iowa County

Dr. D. F. Miller of Williamsburg has been elected president of the Iowa County Medical Society for the coming year. Other officers named were: Dr. Thomas Clark, Victor, secretary-treasurer; Dr. I. J. Sinn, Williamsburg, and Dr. C. F. Watts, Marengo, delegates; Dr. L. A. Miller, North English, alternate.

Iowa and Illinois Central District Medical Association

The quarterly meeting of the Iowa and Illinois Central District Medical Association was held November 19 in the LeClaire Hotel, Moline, Ill. Dinner was served at 6:30 p. m. following which Dr. B. K. Ozanne of Moline spoke on "Use of Curare in Anesthesia." Guest speaker for the evening was Dr. Henry T. Rickets of Chicago whose subject was "Newer Aspects of Diabetic Management."

Johnson County

Johnson County Medical Society met at Oakdale December 3 for dinner and the annual business meeting. Dr. Stephen C. Ware of Iowa City was named president; Dr. R. T. Tidrick, vice president; Dr. R. C. Hardin, secretary-treasurer; Dr. A. W. Bennett, Dr. Stuart C. Cullen and Dr. Henry R. Jenkinson, delegates. Dr. Charles W. Gray of the sanatorium staff spoke on "Streptomycin in the Treatment of Pulmonary Tuberculosis." Case presentations to illustrate the topic were made by Dr. Arthur C. Wise, also of the sanatorium.

Lee County

Dr. Frank L. Poepsel was elected president of the Lee County Medical Association at a meeting held December 10. Dr. Raymond Cooper, Keokuk, was elected vice president and Dr. Ferris D. Evans, Keokuk, was named secretary-treasurer. The program of the meeting included talks on "Recent Advances in the Treatment of Heart Disease" by Dr. Lucien W. Ide and "Rational Treatment of Anterior Poliomyelitis" by Dr. W. D. Paul. Both men are from the State University of Iowa College of Medicine.

Linn County

The Linn County Medical Society will meet at Hotel Roosevelt, Cedar Rapids, January 22 to hear Dr. Sterling Bunnell of San Francisco speak on "Reconstruction of the Hand."

Marshall County

The Marshall County Medical Society held its regular monthly meeting at the Methodist Church, Marshalltown, December 2. The annual election of officers was held with Dr. R. C. Wells becoming president; Dr. Ralph Carpenter, vice president; and Dr. E. C. Knight, secretary-treasurer. All are from Marshalltown. Dr. John H. Randall of Iowa City presented a talk on "Cancer of the Female Genital Tract."

Montgomery County

The Montgomery County Medical Society met at Hotel Johnson December 11 for the annual Christmas dinner for members and their wives. After the dinner the group was entertained at the home of Dr. and Mrs. Fred A. Hansen.

Pocahontas County

Members of the Pocahontas County Medical Society met December 8 at the home of Dr. J. H. Rhodes of Pocahontas. The following officers were elected: Dr. H. L. Pitluck, president; Dr. J. B. Thielen, vice president; Dr. Charles L. Jones, secretary-treasurer; Dr. W. F. Brinkman, delegate; Dr. J. B. Thielen, alternate.

Polk County

The Polk County Medical Society met at the Des Moines Club, Des Moines, December 17 for a 6:30 p. m. dinner. Dr. Nathaniel G. Alcock, Professor of Urology and Acting Chief of the Department of Urology at the University of Iowa College of Medicine, spoke on "Tumors of the Adult Kidney."

Scott County

The Scott County Medical Society met December 2 for a 6 o'clock dinner at the Lend-A-Hand Club, Davenport. The scientific portion of the program consisted of a talk by Dr. Darrell A. Campbell, surgical director of Wayne County General Hospital, Eloise, Mich., on "The Surgical Therapy of Pancreatic Disease," and a film entitled "Perineal Prostatectomy."

Sioux Valley Medical Society

The winter meeting of the Sioux Valley Medical Society will be held at the Martin Hotel, Sioux City, with all-day meetings scheduled for January 28 and 29. The smoker, followed by a program, will be held January 27 at 8 p. m.

Taylor County

The Taylor County Medical Society met recently at Clearfield. Following dinner there was election of officers. The outgoing officers were re-elected. A round-table discussion concluded the evening.

Wapello County

The Wapello County Medical Society will meet January 6 at St. Joseph Hospital, Ottumwa. Following dinner Dr. C. C. Scheffley of Rochester, Minn., will discuss "The Surgical Risk in Heart Disease."

Woodbury County

Dr. Thomas J. Dry, cardiology consultant at the Mayo Clinic, Rochester, Minn., and associate professor of medicine at the University of Minnesota, spoke at the November meeting of the Woodbury County Medical Society. His subject was "The Management of Cardiovascular Decompensation."

PERSONALS

Dr. R. L. Barton of Dubuque spoke to the Kiwanis Club of that city November 10. He discussed the use of penicillin in treating venereal disease.

Dr. Charles W. Beckman of Iowa City began practice in Kalona the first of December. He is associated with Dr. D. G. Sattler. A graduate of the State University of Iowa College of Medicine with the class of 1944, Dr. Beckman interned at Roper Hospital in Charleston, S. C. Following that he served two years in the Army Medical Corps and recently completed four months' work at Sacramento County Hospital.

Dr. Buell Buchtel of Corydon recently closed his office and moved to New Orleans, La., where he will specialize in x-ray at the Ochsner Clinic. Dr. Buchtel was in x-ray work during his military service.

Dr. Ralph A. Dorner, associate professor of surgery at University Hospitals, resigned, effective Jan. 1, 1948, to enter private medical practice limited to chest and general surgery. He will be associated with Dr. J. B. Synhorst of Des Moines.

Dr. Thomas F. Edwards located in Hopkinton and began the practice of medicine and surgery recently. A native of Iowa, Dr. Edwards is a graduate of the St. Louis University School of Medicine and a veteran of World Wars I and II.

Dr. J. H. Gasson has moved to Shenandoah after practicing five years in Bedford.

Dr. F. M. Kilgard has opened offices for the practice of medicine and surgery in Indianola. A graduate of the University of Illinois College of Medicine, Chicago, with the class of 1928, Dr. Kilgard practiced seventeen years in Phoenix, Ariz., before moving to Indianola last July.

Dr. J. P. McManus and his family left Graettinger, where he had practiced for nineteen years, for Los Angeles, Calif., where they plan to make their home.

Dr. Mark Piper has taken over the practice of Dr. E. J. Lessenger of New London while the latter is confined to his home because of illness.

Dr. E. D. Plass, professor and head of the Department of Gynecology and Obstetrics at the University Hospitals, spoke on cancer to the Iowa City Rotary Club November 13.

Dr. John L. Powers recently opened offices in Estherville, having come from the Caylor-Nickel Clinic and hospital in Bluffton, Ind. He also will practice part-time in Graettinger, occupying the offices vacated by Dr. J. P. McManus.

Dr. Kirby Shiffler, who completed a three year

research course at Vanderbilt University Hospital, Nashville, Tenn., has moved to Des Moines and announced his intention to enter practice. While in Nashville he specialized in obstetrics and gynecology.

Dr. Adolph Soucek, assistant superintendent of the Cherokee State Hospital, has been named acting superintendent following the resignation of Dr. Charles F. Obermann.

Dr. George I. Tice is opening an office at the Forester's Building, Mason City, in association with his father, Dr. C. B. Tice. A graduate of the State University of Iowa College of Medicine in 1940, Dr. Tice served two years in the armed forces. He completed a fellowship in surgery at the Mayo Clinic October 1.

Dr. K. E. Wilcox of Muscatine addressed the Muscatine County Farm Bureau Women's Committee December 10 at Hotel Muscatine. He spoke on cancer.

Dr. Nathan A. Womack, professor of clinical surgery at Washington University, St. Louis, has accepted the position of head of the Department of Surgery at the State University of Iowa.

DEATH NOTICES

Barnes, Benjamin Spafford, aged 63, of Shenandoah died December 12 following a short illness. A graduate of the Rush Medical College with the class of 1909, Dr. Barnes had practiced in Shenandoah thirty-five years. He was a member of the Page County and Iowa State Medical Societies.

Deering, Albert Benson, of Boone, aged 73, died December 12 at his home as the result of a heart attack suffered a few days previously. Dr. Deering was graduated from the Northwestern University Medical School, Chicago, in 1898, and following a year's service in the Spanish American War he came to Boone. He was a member of the Boone County and Iowa State Medical Societies.

Hankey, Daniel Clyde, aged 64, of Council Bluffs, died November 20 while on a hunting trip near that city. Death was caused by a blood clot in an artery of the heart. Dr. Hankey was graduated from Harvard Medical School, Boston, Mass., with the class of 1915. He was a member of the Pottawattamie County and Iowa State Medical Societies.

Thoms, Adolph Nicholas, aged 55, of Cedar Falls, died December 15 at his home following a long illness. Following his graduation from the Creighton University School of Medicine, Omaha, in 1916, Dr. Thoms practiced in Fort Dodge, coming to Cedar Falls in 1937. He was a member of the Black Hawk County and Iowa State Medical Societies.

ACTIVITIES OF COUNTY AUXILIARIES

(Continued from page 34)

Children is sponsoring an exhibit and sale of articles made by the handicapped of the state. At this meeting the members voted to take an active part in the Iowa State Nurse's Loan and Recruitment project. It was voted to amend the bylaws and raise the dues to two dollars per year.

Anne Keen, Secretary

Warren County

May we welcome the newest Woman's Auxiliary organization. The doctors and their wives in Warren County had dinner together on November 25. Mrs. Fred Moore, president of the State Auxiliary, was a guest.

After a joint discussion of the possibilities of organizing a health council in the county to coordinate the efforts of all the health organizations, the groups separated for their meetings. The Auxiliary was organized with six charter members. Mrs. C. H. Mitchell of Indianola was elected president and Mrs. M. B. Cunningham of Norwalk secretary-treasurer.

NEW PSYCHOLOGY PROFESSOR AT S. U. I.

Pres. Virgil M. Hancher has announced the appointment of Dr. Woodrow M. Morris to be assistant professor of clinical psychology and senior psychologist at the Psychopathic Hospital at the State University of Iowa.

Dr. Morris will come to Iowa City on February 1 from his present position as Director and Chief Psychologist, Division of Special Clinical Services, Bureau of Psychological Services, Institute of Human Relations, University of Michigan.

Prior to naval service as a clinical psychologist in the neuropsychiatric service of the U. S. Navy Hospital at Great Lakes, Ill., Dr. Morris was chief psychologist of the Pontiac State Hospital, Pontiac, Mich. While there he was also consultant to the Oakland County Probate Court, the juvenile court and the Michigan Children's Aid Society.

MIDWEST RADIOLOGIC CONFERENCE

The 1948 Midwest Radiologic Conference will be held at the Hotel Schroeder, Milwaukee, Wis., February 6 and 7. It will be followed immediately thereafter by the annual conference of teachers of radiology in Chicago on February 8. The dinner speaker on Friday evening, February 6, will be Robert R. Newell, M.D., Professor of Radiology, Stanford University School of Medicine, San Francisco, Calif.

Inquiries concerning the details of the meeting may be addressed to Dr. A. Melamed, Secretary, Milwaukee Roentgen Ray Society, 425 East Wisconsin Avenue, Milwaukee 2, Wis.

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DIABETES IN PREGNANCY

Ralph A. Reis, M.D., Chicago, Ill.

The combination of pregnancy and diabetes is a relatively new one because, before the advent of insulin in 1921, most of the diabetic women did not become pregnant. They did not become pregnant because of the pituitary dysfunction that accompanies untreated diabetes, and because of the resultant amenorrhea and sterility. As late as 1910, Whitridge Williams at Johns Hopkins was able to collect only 65 cases in the whole world literature of diabetic women who were pregnant and who carried the pregnancy to term.

Uncontrolled diabetes is exactly the same now as it was in the pre-insulin days. The uncontrolled diabetic who is pregnant must face a maternal mortality of somewhere around 27 or 28 per cent and can expect to run a 60 to 70 per cent chance of her fetus not surviving after it is born.

Insulin, intelligently used, will control diabetes. It will regulate the pituitary function. This results in normal menstrual cycles and in a normal type of fertility.

The result is that, since the advent of insulin, we find the combination of pregnancy and diabetes rather common. The figures at Johns Hopkins run something like 1 in 282 pregnancies. At Michael Reese we have found that 1 out of every 350 women we deliver is a diabetic. This means that in the course of the year, with about 2,600 deliveries, we have 6 to 8 diabetic patients.

In considering the problem of diabetes and pregnancy we must take into account the type of diabetes which is present. If it is a diabetes that has come on in adult life, and especially if it is a diabetes which has come on at the most frequent decade, that is—between 35 and 44 years of age—these women develop problems not only of diabetes but of hypertension. With the hypertension comes a large incidence of the tox-

emias of pregnancy. They develop evidences of renal damage, and as a result of the hypertension, a tendency toward cardiac damage. This is in contradistinction to the juvenile type of diabetic, the individual who has had diabetes since childhood, in whom the problems are entirely separate.

Let us make sure, when we find a reducing substance in the urine of a pregnant woman, that this woman has diabetes. Let us remember that lactosuria is not an uncommon finding in pregnancy. To get a positive test with Benedict's solution, you must have over 100 mg. per cent of lactose in the urine. One to 2 per cent of all pregnant women will excrete that much, until about the thirty-seventh or thirty-eighth week of pregnancy, at which time the incidence rises. During the day or two preceding the day of delivery, at least 30 to 35 per cent of these women will show a reducing substance which is lactose. This lactosuria remains through delivery and during the first ten or twelve days postpartum.

The second condition that we must differentiate from true diabetes is the so-called renal glycosuria, in which a change in the renal threshold lets sugar spill out of the blood stream by way of the kidneys and make its appearance in the urine. These patients do not have a true diabetes in that they do not have an elevation of blood sugar. It has been said, however, that these patients who show evidence of renal glycosuria during pregnancy are the patients who will in subsequent years develop a true diabetes. Whether this is true or not, I do not know.

With true diabetes, there is not only the glycosuria but also an elevation of the blood sugar. We find an elevation above the normal values which, by our method at the hospital, are 60 to 90 mg. per cent.

If, then, we have made a diagnosis of a true diabetes as a result of testing the blood sugar, we have to consider two things: the effect of the pregnancy on the diabetes and the effect of the diabetes on the pregnancy.

Diabetes is always more difficult to control when a patient is pregnant. Almost invariably there is a change in her sugar tolerance which produces difficulty in regulating and controlling the glycosuria and the elevated blood sugar. As far as I know, there is at present no way of predicting in which direction this change is going to take place. These changes in sugar tolerance can be a decrease, in which case the individual needs more insulin and a more rigid diet to control her glycosuria. It may be due to a hyperpituitary function, and I say "may" because, again, we do not know. We do know, however, that this decrease is found not only in diabetes at the time of pregnancy but also whenever there is a change in endocrine balance. We find it, then, at puberty. We find it again at the menopause, and we find it in many of these women as a recurrent event every month during the menstrual time. Many of the more severe diabetics need a step-up of insulin during the week of each month in which they menstruate.

On the other hand, some of these diabetic patients have an increased tolerance and, to our surprise, we find that they need less insulin. It has been said, and it is in the literature repeatedly, that many diabetics improve toward the end of pregnancy. It has been postulated that this improvement is due to the fact that, as the fetus matures, the fetal pancreas becomes active, and the fetal pancreas takes over some of the load that the maternal pancreas cannot handle. As far as we know, there is no definite clinical evidence to substantiate this. This is a postulation and a theory which has no basis.

Another problem in sugar tolerance is tied up with the frequent nausea and vomiting which occurs in the first trimester. In these patients we often find it difficult to control the glycosuria and to maintain normal body weight and prevent acidosis. It is probable that one of the ideas which has arisen, that diabetes improves as the pregnancy progresses, is due to the fact that the patient is less refractory and more responsive after the first trimester is over and after the period of nausea and vomiting has passed.

There is a third effect of pregnancy on diabetes, and that has to do with the increased muscle effort that accompanies labor. The muscle exertion depletes the glycogen reserve in the liver and, therefore, again upsets the sugar balance.

Again in the postpartum period there is an increased tolerance and decreased need for insulin for about ten days.

There is also an increased tendency toward acidosis and ketosis, which is due to two things:

first, the normal increase in the basal metabolic rate which accompanies every pregnancy; and, second, the change in the carbon dioxide combining power which is definitely diminished as pregnancy goes on in the presence of diabetes.

Let us reverse the picture and talk for a moment on the effects that uncontrolled diabetes has on pregnancy. We find first that there is a decrease in fertility and a decrease in the power to conceive, but there is also a definite increase in the incidence of spontaneous abortion and of immature labor rather than premature labor. If more of our diabetics would go into premature labor during the last trimester, many of our problems, as far as the baby of the diabetic mother is concerned, would be solved.

Everyone has written and talked repeatedly of the tremendous increase in the toxemias of pregnancy that are found in diabetic women. In the nondiabetic, the incidence of toxemia is about 7 per cent. Mengert, when he was at the University of Iowa, reported an incidence of 24 per cent; Adair in Chicago, of 50 per cent. In 40 diabetics, whose babies I will discuss shortly, there was not one who had any evidence of toxemia. By that I mean no hypertension, no albuminuria and no edema.

I would like to believe that this was due to our careful prenatal coverage and to our good obstetrics, but that is a little difficult to believe. I am rather inclined to think that this is an oddity due to the fact that the majority of patients were younger women. Twenty-eight of the 40 were primiparas in the middle twenties. I think it is a coincidence that we happened to get such a relatively large series of younger women who, therefore, showed very little evidence of toxemia. But at least it refutes the idea of Priscilla White and the workers in Boston who have emphasized the fact that toxemia will be present in 67 or 70 per cent of the pregnant diabetic women. They believe that an endocrine imbalance is not only the cause of the diabetes but is likewise a cause of the high incidence of toxemia.

One of our big problems in diabetes, and especially in the last trimester, is the high incidence of fetal death in utero. When it occurs, it occurs usually in the last month. It has been said to be due to acidosis or to toxemia.

We are working at the moment on a new idea. In the laboratory we are collecting all of the placentas of diabetic women that we can procure, and by special staining methods are trying to determine whether there is any evidence of premature senility of the placenta. Something must happen to that placental circulation because these

babies of diabetic women will go along uneventfully; then suddenly, after the thirty-sixth, thirty-seventh or thirty-eighth week you will find, to your chagrin, the woman whose diabetes has been controlled, turns up with no fetal heart tones.

We have a feeling that this is possibly connected with the same type of change that we see in the younger adults who have developed their diabetes as children, in whom there is evidence of premature sclerosis, of early hypertension, of sclerotic and degenerative changes not only in the kidneys, heart and blood vessels, but also, particularly, in the retina and in the cerebral circulation.

We feel that possibly the placenta, being the youngest tissue in the body and being the one that matures and becomes senile most rapidly, may be subjected to this same type of sclerotic change which is found so commonly in the juvenile diabetic.

The fetus of a diabetic woman is notoriously oversized. It is oversized for two reasons. It is originally large, which is probably due to an excessive amount of the growth hormone from the pituitary. It is also overweight for its particular size, and it has been assumed, though we cannot prove it, that this overweight is due to the continuing hyperglycemia to which the baby is constantly subjected. However, if that were true, the well controlled diabetic who is not allowed to have a hyperglycemia during pregnancy and does not have more sugar in the blood than is normal, would not be subjected to this same excessive carbohydrate stimulation. Yet we find that these women have exactly the same oversize and overweight babies as do the women who are not as well controlled.

This oversize and overweight of the fetus is a very important factor. It is, next to fetal death in utero, the cause for the fact that 25 to 50 per cent of the babies of diabetic mothers do not survive. Either they die in utero or they go to term and into spontaneous labor. Being overly large and overweight, at the same time, the resultant dystocia causes not only trauma to the mother but, in many instances, death of the infant. If they do not die from the dystocia due to their oversize, then many of them die from the hypoglycemia in the first hours of birth.

There is said to have been some increase in the frequency of hydramnios and in malformations, but the increase is so slight that I do not believe it to be significant.

The great cause of neonatal death occurring in the first 1-4 hours after birth are marked hypoglycemia, anoxia and lethargy. These babies do

not tend to breathe spontaneously or normally. They not only must be stimulated to breathe properly at first but they must be continually stimulated during the first three or four hours.

We have come to feel that it is safe to say that practically all maternal deaths from diabetes in pregnancy today are due either to no treatment or to poor treatment.

It has been our aim to keep these patients on a diet that is as near normal as possible, with the exception of two factors, a low fat and concentrated carbohydrate intake. Also, we have found these patients do best on single doses of protamine-zinc insulin. If they can be controlled by a single morning dose of the protamine type of insulin, they seem to do much better than they do on either regular insulin or on the mixture of protamine and regular insulin. There is a danger in the use of protamine. It does not work well in the early months when these patients are vomiting. It does not work well when you need more or less hour by hour control of diabetes; it does not work well at the end of pregnancy; and particularly does it not work well in labor.

So, we have made it an almost inviolable rule to switch these patients over from protamine-zinc insulin to regular insulin and to give the regular insulin in small fractional doses spread out through the day. This change is made two to three weeks before we expect to terminate the pregnancy.

During labor absorption from the stomach is poor or nonexistent. We keep these patients on liquids and carbohydrates in solution by mouth and control the insulin that is required by examining every voided specimen during the hours that these patients are in labor.

One of the two major problems I would like to bring to you is the question of the termination of pregnancy. How are we going to salvage these babies of diabetic mothers? We are not going to do it just by controlling the diabetes while they are pregnant. If we do just that, we will lose 40 to 50 per cent either just before delivery or intrapartum, or in the first twenty-four hours after delivery.

The first problem we have to decide is when shall pregnancy be terminated. We feel the time to terminate pregnancy is about the thirty-fourth to the thirty-sixth week. At this time almost every one of these diabetic mothers has a baby that weighs between 3,200 and 3,500 gm. While this baby is of average size and of average weight, it must be remembered when taking care of it that it nevertheless is a premature baby and should be handled as such. The fact that it is prema-

ture should never be forgotten though there is a tendency for all of us to be fooled because they are large and fat when they are born.

There has been considerable debate as to how pregnancy shall be terminated. Both the Boston group and the Joslin group have been outspoken for cesarean section. The debate ranges from cesarean section for all to vaginal delivery for all with a group that stands in between the two.

I do not believe that there is any great obstetric problem as to the type of termination of labor you pick for any particular patient. The only problem involved is, "Which is the safer way to deliver this particular patient?" If it is a young primigravida and her cervix is 2 cm. long, with no dilatation, obviously it is safer to do an elective cesarean section than to do an induction and vaginal delivery. If, on the other hand, the patient is a multipara, with a shortened cervix, down to 1 cm. or less, as is so often the case in these multiparae, with 2 or 3 or 4 cm. of dilatation, how simple it is to rupture the membrane, drain off the amniotic fluid, and let her deliver vaginally. I believe the method of delivery must be individualized by the conditions that are found at the time you have decided that this particular pregnancy shall be terminated.

A long, closed cervix, whether it is in a primigravida or a multipara, demands a cesarean section. If the cervix is partially faced and partially dilated with membranes that bulge into the internal os and labor can be promptly initiated, then it is obvious that the safe way to deliver is vaginally. Hence, the important thing is the decision to terminate at the thirty-fourth to thirty-sixth week, and not the method that is chosen. The method cannot be chosen by rule but must be decided upon by the conditions that are found at the time that you examine your patients.

We come now to the crux of this whole problem, and to the findings from the work that was done at Michael Reese by Allweiss and his group. I mentioned that these babies were premature, in spite of the fact that they are full size and full weight. It has been shown definitely that every normal newborn baby has a drop in blood sugar in the first hour. Values below 50 mg. per cent are found. Half of them will go down to 20 or 25 mg. per cent. But within the course of one hour, the normal baby of the nondiabetic woman will show a gradual rise in blood sugar, with or without treatment, with or without food, which will, in three to four hours, carry the blood sugar back up to the normal adult level of 60 to 90 mg. per cent.

The diabetic baby does not show this prompt

return to normal. That is why we were losing our babies. Since we discovered the reason we have stopped losing them, for in the last 40 diabetics delivered, we have lost none.

In the baby of a diabetic mother, the blood sugar doesn't go down to 50, 40 and 20 and stop; it goes down to 10 and even 5 mg. per cent within an hour after it begins its extra-uterine life. That is the first important thing.

The second important thing is that the blood sugar does not increase unless you make it do so. The blood sugar will not rise in these babies of diabetic women. It will stay at 5 or 10 mg. per cent. When it does, the baby will die within four to eight hours of the time it was born.

So, the first eight hours is the important period in the care of these babies of diabetic mothers. We have found that it is very simple to take care of them. The minute they are born we put 10 drops of 50 per cent glucose solution into the back of the mouth with a medicine dropper. We repeat this every 30 minutes until they have had 5 doses. Then we start giving them a half ounce to an ounce every two hours and we alternate that with a half ounce to an ounce of breast milk.

We are fortunate in that our premature station always has a supply of breast milk on hand. I have the feeling that the glucose will do just as well as the glucose alternating with breast milk. But if we give these babies this glucose solution, if we carry them past the first three or four hours and continue to give them a half ounce to an ounce, every two hours all through the day and, if you please, all through the night of their first twenty-four hours, they will never be a problem again unless they grow up and develop an inherited diabetes. It is the first twenty-four hour period that is important, and it is particularly the first eight hour period that is crucial.

These babies, after the first twenty-four hours, will carry on through their neonatal period and through their infancy just as well as if their mothers did not have diabetes.

I mention intramuscular and subcutaneous injection of glucose in emergency only. In the last 25 we have found no occasion to use it. We are trying something new now, i. e., the management of these babies safely and successfully, without blood sugar determinations, because we believe that diabetes in pregnancy is important for everyone, not only internists and obstetricians, but particularly for the general practitioner.

Full laboratory facilities are not available everywhere. Every hospital is not prepared to do a microdetermination of blood sugar, because all

we can get from the babies is a drop or two from the heel.

We are now taking these babies of diabetic mothers alternately. In half of them we are still continuing to study and to watch the blood sugars. In the other half, we are acting as though we know all about it and doing nothing but giving them this glucose solution. The few whom we treated this way have done just as well as if we knew what the blood sugar level was.

The important thing, we think, is to get sugar into them and to keep putting sugar into them. The simplest method is to use ordinary glucose solution which is available to anyone.

ENVIRONMENTAL CARE FOR CHILDREN WITH RHEUMATIC FEVER

Robert L. Jackson, M.D., Iowa City

Rheumatic fever is a serious disease that year after year not only kills many children but leaves many more children with damaged hearts. It is not a dramatic disease, as one that comes in epidemics, and consequently society has been slow to recognize its import. The total of its annual damage is serious and great. Between the ages of 10 and 14 years, it causes more deaths than any other disease; between 5 and 9 it is out-ranked as a killer only by the four principal communicable diseases of childhood combined; and between 15 and 24 years, only tuberculosis outranks it as a cause of death. Those who survive their attacks of rheumatic fever may have damaged hearts and they will tend to have the disease again.

The exact cause of rheumatic fever is unknown, but we are continually finding out more about it and how to control it. The incidence of the disease is highest in the lower economic levels. But what and how factors associated with poverty influence the spread of the disease are unknown. It has been fairly well established that the disease is precipitated by an upper respiratory infection due to group A hemolytic streptococci. The child seems to recover from this illness but two or three weeks later becomes ill again. The crowding and poor housing of poverty are conducive to the spread of upper respiratory infections. An adequate dietary for children living in poverty is very difficult to obtain even in rural communities such as Iowa. The stress of adverse social situations coupled with poverty cer-

tainly favor poor environmental care for the child.

The disease has been recognized for a long time as highly prevalent in crowded industrial centers, but Morris¹ (1942), as a result of a study of rheumatic fever in England, found the disease to be just as prevalent in depressed rural areas as in the cities. In a study of the incidence of rheumatic fever in a rural county of Iowa, we found the incidence to be 0.61 per cent.² Relative to some published incidence rates for rheumatic fever for areas differing in density of population and in climate, the incidence of rural Iowa school children is low. In the rural Iowa county the economic status is not depressed; there is an abundance of food but a high degree of prevalence of the inciting agent. In a recent study Roberts³ shows that contrary to general belief the incidence of rheumatic fever is high and the disease severe in the southern states. In this section of the United States the upper respiratory infection season is comparatively short. The children are outdoors a great deal and are less likely to live in crowded situations, except during the rainy season when probably many are crowded in the small homes. Poor dietary habits and lack of essential foods are prevalent among the lower economic levels in the South. The problem of rheumatic fever in the South is of particular interest because it seems to offer a group in which the poor nutrition of poverty is to some extent segregated from extreme crowding and a high degree of prevalence of the inciting agent.

Many of the children with rheumatic fever living in Iowa come under the care and supervision of the University Hospital and the clinics of State Services for Crippled Children held throughout the state. The recrudescence of rheumatic fever among 266 of these children has been studied recently by us. This study was undertaken to determine the recurrence rate of a group of rheumatic subjects who have received special attention to improve their diets and level of environmental care.

Many of the observations of the study were made prior to the use of sulfonamide prophylaxis by anyone, and we have not used sulfonamide drugs although many clinics have used them the last few years. Reports⁴ on the use of sulfonamide prophylaxis for groups of rheumatic children show it to be effective in preventing recurrences. The drugs are not without danger and must be administered under strict medical supervision; some clinics have found from 10 to 12 per cent toxic reactions. What the prolonged use of sulfonamide drugs does to the child's immunity is still a problem of research.

From the Department of Pediatrics and State Services for Crippled Children, State University of Iowa, Iowa City, Iowa. Presented before the annual meeting of the Iowa State Public Health Association, May, 1947.

As soon as a child with rheumatic fever came under the supervision of the University Hospital or State Services for Crippled Children, an investigation of the child's home environment was made by a trained medical social worker, and every effort was made to insure for the child a good level of environmental care. If the child had active rheumatic fever, he was hospitalized or given sanatorial care, unless a high level of home care could be provided or the family refused to accept the institutional care. The family of each child in the group was instructed by the doctor and nurse and often by a dietitian regarding the importance of an adequate diet which should include the daily consumption of one quart of milk; one or two eggs; one serving of meat, fish, chicken, or liver; two vegetables ($\frac{1}{2}$ cup is considered a medium serving); one orange, apple or tomato, one other fruit in addition; one teaspoonful of cod liver oil; and six teaspoonfuls of butter or margarine. They were also told that other foods such as bread, cereal, and potatoes could be added to satisfy the appetite and maintain correct weight, but under no circumstances were they to replace any of the above; cereal was not to be served more than once daily. Rather, the child was to be encouraged to eat larger quantities of fruits and vegetables; varieties of these were to be used so the child would not form likes and dislikes.

Each family was advised to have the child sleep in a room of his own whenever possible or at least to sleep alone, and to have about ten hours of rest each night. The importance of proper clothing was stressed, as well as control of temperature and humidity of the home. With regard to the care of intercurrent infection, the family was advised to have the child go to bed if there was any sign of infection, and to consult the family physician as early as possible. If another member of the family had a cold, sore throat or any other infectious disease, the child was to be kept away from that person, and the family physician notified. The family was told to have the child play with other children in the normal way, but to plan his activities to avoid fatigue. In addition, psychologic advice was given to prevent overprotection. The importance of persevering with a high level of care day after day and year after year was emphasized and re-emphasized at each clinic visit.

A detailed medical report regarding the child's condition and home management was routinely sent to the family physician before the child returned to his home after hospital or sanatorial care and after each clinic examination. The fam-

ily physicians were informed that the children were being observed partly for research purposes, and the doctors were encouraged to seek consultation if the children should have symptoms or signs suggestive of a recurrence. The State University of Iowa ambulance service made it possible to transport the children back to the University Hospital for observation or treatment when indicated.

About two-thirds of the children lived in areas where local public health or school nursing service was available. An individual public health nursing report regarding the child was sent to the local public health nurse or school nurse before the child returned to his home after the institutional care and after each clinic visit. The local nurse was advised to make home visits as often as she felt it was necessary, and to instruct the parents to consult the family physician if any difficulty should arise. The local nurses routinely sent reports to the clinic regarding the home care of the children.

The tendency of rheumatic fever to recur is one reason why this disease is so difficult to control and so dangerous for the child who is susceptible. The medical care after the disease has been inactivated is directed toward the prevention of a recurrence. It is known that the disease is particularly likely to recur the first year after an attack and during childhood and early adolescence.

The 266 patients of the Iowa study group were under observation a total of 893.5 person-years from 4 to 21 years of age. The age specific recurrence rate* was obtained. For the age period 4 to 13 years there were 37 recurrences and three deaths for 504.5 person-years of observation or a rate of 7.9; for the age period 14 to 16 years, there were 24 recurrences for 233.5 person-years of observation, or a rate of 10.3; for the age period 17 to 21 years, there were seven recurrences for 155.5 person-years, or a rate of 4.5 per cent. For the total group, 71 major and minor recurrences were experienced by 51 children.

The recurrence rate of rheumatic fever in this study group of rheumatic subjects who received special attention to improve their diets and level of environmental care is significantly different from that reported by Wilson, et al.,⁵ for a random sample. The recurrence rate for the study group is lower for the age group 4 to 13 years and slightly higher or the same for the older age groups. (See chart 1.)

*The recurrence rate for a specified age period is the number of recurrences during the specified period divided by the number of person-years observed during the specified period. The quotient is multiplied by one hundred to express in terms of per cent.

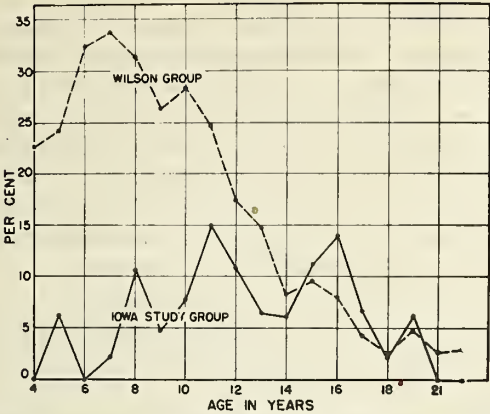


Chart 1 compares the age specific recurrence rates of the Iowa study group of rheumatic subjects with the rates derived by Wilson for a random sample of rheumatic subjects. There is a marked difference in the compared groups for the age period 4 to 13 years. From 14 to 21 years, the difference is not significant.

It is noteworthy that the age 4 to 13 years is a period in which nutritional requirements of the child are high and a time in the child's life when his habits of living can be controlled with less difficulty than from approximately age 14 years and older.

By history we obtained a recurrence rate of 35.8 per cent for the first year after onset for a control group of 134 Iowa children who did not receive improved environmental care. For a comparable hospital-treated group of 115 children the rate was 12.0 per cent. The difference in the rate for the treated and control groups of Iowa rheumatic patients is significant. (See table 1.)

TABLE 1
Recurrence Rate of Rheumatic Fever of Specified Groups
Within one year of previous attack
4-16 years

Iowa control group, 134 patients.....	35.8 per cent
Wilson group	38.7 per cent
Iowa-treated group, 115 patients.....	12.0 per cent

The medical social worker appraised the economic and social situations of the home in which the patient lived after he came under care and supervision. The economic condition of the home was considered good when the income was sufficient to provide adequate diet, clothing, and shelter; fair when the income was marginal for diet, clothing, and shelter; and poor when the income was not sufficient to provide adequate diet, clothing, and shelter. These ratings were available for 210 of the 266 patients. Of the homes rated for economic resources, 21.9 per cent were good; 40.0 per cent were fair; 38.1 per cent poor. Chi-square computed for the distribution of recurrences in home economic levels does not indicate an association between the presence or absence of a recurrence and economic resources of the home. (See table 2.)

TABLE 2
Test of Association of Recurrences of Rheumatic Fever and Environmental Factors

Distribution of Recurrences and Environmental Factors	Chi-square	Degrees of Freedom	Significance
Recurrence and Home Social Situation	.4	2	None
Home Economics Situation	3.3	3	At 30% level
Dietary	18.4	4	Beyond 1% level

The social situation in the home was considered good if the parents were emotionally stable, sincere in their efforts, and cooperated well with the doctor; fair where the level of care was marginal, due to conditions which could not be controlled, where cooperation was not always constant; and poor where the parents were either ignorant or indifferent, or both, where parental relationship was poor, where home life was disrupted, or where the parents could not help themselves, and no help could be obtained from the community. These ratings were available for 208 of the 266 homes. Of those rated, the home social situation was good for 14.4 per cent; fair for 39.9 per cent; poor to fair for 13.9 per cent; and poor for 31.7 per cent. Chi-square computed for the distribution of recurrences in varying levels of home social situations indicates an association between the recurrences and the home social situation which is significant only at the 30 per cent level of confidence.

The third environmental factor rated for this rheumatic group is the dietary. The evaluation was made using information obtained from histories taken at each clinic visit, from reports received from the mothers, public health nurses and social workers. The patients were classified into groups according to the way they followed the prescribed diet.

Good—Dietary advice adhered to at all times.

Fair—Dietary advice followed most of time; common errors were:

- (a) Supplementary vitamin D frequently omitted;
 - (b) Child eating excessive amounts of unessential foods;
 - (c) Limited selection of vegetables or fruits.
- Fair to Good—Fluctuations from fair to good.
Poor—Diet definitely low in one or more essential foods.

The diets were most commonly low in protein, minerals, vitamin D and the vitamin B group.

Poor to Fair—Fluctuation from poor to fair.

Very Poor—Diet very inadequate; one or more essential foods absent.

These dietary ratings were available for 251 of the 266 subjects. Of those rated, 33.5 per cent were good; 15.5 per cent fair-to-good; 35.4 per cent fair; 8.3 per cent poor-to-fair; and 7.1 per cent poor and very poor. Chi-square com-

puted for the distribution of the recurrences in the various dietary levels indicates an association between the recurrences and the dietary ratings which is significant with a high degree of confidence.

An unexpectedly low recurrence rate is found for a highly susceptible group of young rheumatic children who have received special attention to improve their diets and level of home care. The management was more effective in lowering the recurrence rate in the younger children whose habits of living can be changed with less difficulty than the children approximately fourteen years or more. The chances are greater also that younger children with the disease are living in a time in the family's existence when the burdens to be borne by the family are heaviest and consequently the needs of the child are met with the greatest difficulty by many families.

Although the economic situation of the home for the study group showed no direct association with the distribution of the recurrences, our experience was that whenever poverty was present, it was exceedingly difficult to provide the essentials of care, particularly an adequate diet. With outside help and supervision, 33 per cent of the children in the poor economic group received a good diet and 36 per cent a fair diet.

Of the environmental factors rated, the most significant association is seen between the level of dietary care and rheumatic recurrences. It is known that the absence of good nutrition may induce a decreased resistance to bacterial infec-

tion. In our dietary data, the elements most commonly deficient were protein, vitamin D, thiamine, and minerals. The dietary information was insufficient to allow quantitative analysis, but the majority of the children were receiving inadequate diets at the time they developed the attacks of rheumatic fever which brought them under our observation. (See chart 2.) The degree of deficiency of the diet appears to be related to the incidence and degree of heart damage.

It has been reported that the recurrence rate of rheumatic fever for a random sample is lower after puberty than before. The recurrence rate of our group after puberty was not significantly different from that reported for a random sample. The boys and girls who comprised the (14 to 18 years) group were those from whom little cooperation could be obtained because of many instances of poor home social situations. The habits of living of these children were well established and they had the expected adolescent revolt against a supervised program. Our therapy probably was not given a chance to change the general situation or course of the disease for many of the group. The incidence of recurrence and of heart disease for the group was as high as it was for any age period of our study group. All the adolescent children with heart disease had poor diets and lived in poor home social conditions.

The evidence presented in the literature is both for and against the existence of a definite correlation between nutrition and rheumatic susceptibility. The same is true of environmental care. Taran⁶ found the incidence of recurrences of rheumatic fever after convalescent care to be four times as high in children who return to poor home environment as in those who return to good living conditions at home. Coburn and Moore⁷ analyzed statistically data on the dietary of less susceptible and more susceptible rheumatic subjects. They found a close association between nutrition in childhood and rheumatic susceptibility. A preliminary report by the same authors on the results of re-enforcing the diets with eggs for a small group of rheumatic children shows none of the subjects experienced a recurrence. These results were published pending further research. At the present time we are accumulating more detailed nutritional histories and biochemical studies on all new rheumatic subjects in order to correlate the nutritional state of the patients with the clinical manifestations of the disease.

Our analysis of the incidence of recurrences of rheumatic fever in relation to environmental factors indicates that every effort should be made to attack the problem of improving the general living conditions of rheumatic children. It requires

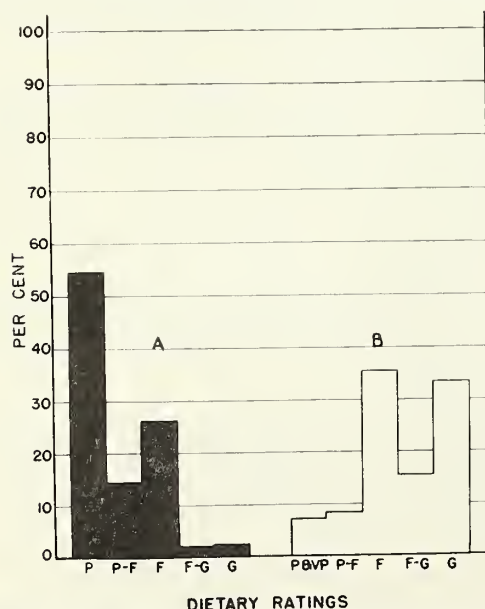


Chart 2 shows the distribution of the dietary ratings of the rheumatic subjects (A) before observation and dietary instruction and (B) during observation and after dietary instruction. The area of each histogram to the left shows the proportion receiving the poorer dietary and to the right the better dietary.

much more time, knowledge, and patience to instruct the mother how to care for and feed the child than to instruct her how to give a few pills each day. It is usually easier for the social worker to obtain medication for an indigent child than to arrange for a satisfactory level of home care, including an adequate diet.

It is feared, since sulfonamide prophylaxis offers a simple way of preventing recurrences of rheumatic fever, that more indifference to the problems of environmental care will follow. We believe only a very small percentage of rheumatic children should receive sulfonamide prophylaxis, depending on the severity of the individual's attack and the environmental care and dietary that can be insured for him. If the disease is definitely inactive, an excellent diet and wholesome living conditions will practically eliminate the chances of a recurrence with heart disease.⁸

Families who have been helped to provide a high level of environmental care for their children should have fewer siblings develop the disease. The next generation of children also should have a lower incidence of rheumatic fever. Studies of groups of rheumatic patients should evaluate not only the recurrence rate of the group but also the social adjustment of the children. Children given opportunity for more wholesome relationships, better diet, and outside attention make remarkable physical, emotional, and intellectual growth.

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HEADACHES

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Headache is believed to be one of the commonest complaints of mankind, although little reliable data exists as to the frequency of its occurrence. This is due in part to the fact that a high percentage of headaches are of the milder functional form and do not require the individual to

seek medical relief. For the most part the causative factor in this type of headache is emotional, or/and physical exhaustion. Usually these patients have formulated their own treatment to suit their convenience and temperament. An appreciable number of these individuals resent any effort by their doctor to intrude upon what they consider their inalienable right to possess and deal with their headaches as they wish. Upon this attitude depends the financial welfare of the numerous manufacturers of aspirin and allied compounds. Functional headaches, I believe, will always be resistant to medical treatment because they perform a service to mankind, the need of which will increase as long as civilization continues its present course. This service is the "face saving quality" it possesses. How and when headaches derived this quality is lost in antiquity and perhaps compensates for the lack of originality which its use implies.

Headache is a respectable and socially accepted illness, being nearly as common a subject of conversation as the weather, and equally tiresome. Headaches have apparently always been a reasonably legitimate excuse for an individual to avoid too frequent boredom of social obligations, and equally well provides an easy rationalization for pleasurable activity. However, to simulate the existence of a headache for either reason too frequently is not playing cricket with social customs, and will eventually curse you with the wrath of the social "gods." Such abuse of a time honored custom is inviting trouble, because this mechanism may lead to the development of a well defined psychosomatic headache not easily responsive to treatment.

It is of interest to note that headache is one of the few illnesses associated with emotional disturbances to retain its respectability following the advent of scientific medicine, initiated by the discoveries of Virchow in 1858. The fanatical devotion of the medical profession to the scientific approach made the occurrence of symptoms without measurable physical or chemical change an anachronism. Such has been our devotion to science that even in this present age of enlightenment it is frequently considered insulting to the "gods" of scientific medicine for a patient to insist he is ill when physical and chemical laws say he is not. The psychosomatic approach to medical problems is not a new concept. It is a reacceptance of a segment of medical knowledge which was ostracized early in the development of the scientific medical era by the inability of the average human mind to accept the new without discarding the old. Today we recognize that

"psychic and somatic phenomena take place in the same system and are probably two aspects of the same process." Until more factual data is available it is reasonable to assume that the milder forms of headaches, which do not require medical attention, probably represent a psychosomatic relationship resulting from the emotional stresses and strains associated with modern living. Although there is no factual proof of the incidence of this type of headache among the various social classes, it is my belief that a high instance of such headaches occurs in the same class as that in which cardiovascular disease is prevalent. At present there is insufficient reliable statistical data to factually prove this contention.

However, it is reasonable to assume that individuals subject to frequent exhaustive headaches, not due to other demonstrable disease, may constitute a group characterized by a congenital instability of the autonomic nervous mechanism, and represent a prehypertensive phase of cardiovascular disease. If this proves to be true it is possible that such headaches indicate the only stage of cardiovascular disease development in which the chain of events can be successfully broken by the elimination, when possible, of the emotional and environmental causative factors. The increasing crescendo of civilization suggests an increasing incidence of functional headache, both individually as well as nationally, unless practical psychiatry rapidly evolves a method of influencing our educational system in such ways as will result in the production of emotionally stable individuals capable of adjusting rationally to reality. While such a miracle is within the range of possibility, it is hardly likely to occur in the near future because of the questionable emotional stability of many of the individuals who control our educational policies.

Recent advances concerning the nature and treatment of unilateral headache, or hemicrania, are of considerable importance both from the point of view of individuals suffering with this condition as well as economically, because the periodically recurring headaches result not only in hours lost at work but a marked decrease in efficiency with a relatively high accident rate. Hemicrania is defined as a pain on one side of the head. There are two principal types of hemicrania—migraine and histaminic cephalgia. The history and clinical findings of these two types of hemicrania usually make the diagnosis quickly apparent. Infrequent trigeminal neuralgia may simulate these conditions but is easily differentiated on the basis of trigger zones, which are almost invariably present in neuralgia, as well as the dis-

tribution of pain, which is always along the course of one or more of the three main branches of this nerve. Continued investigations have nearly eliminated sinusitis as an important cause of headache, either unilateral or bilateral. It is to be hoped that the excessive and usually fruitless effort which doctors have shown in trying to establish sinusitis as a cause of headache will be diverted into more profitable channels, particularly to the detection of recurring, disabling types of headache, which are dramatically amenable to the proper treatment. The pain of migraine and histaminic cephalgia apparently arises from the vascular structures about the head. In both conditions the pain apparently is produced by vasodilatation of the extracranial vessels, and relieved by vasoconstrictor drugs. Whether or not the mechanism causing the vasodilatation is similar in these types of vascular headache is still controversial. Fortunately, migraine and histaminic cephalgia are easily recognized clinically. Unilateral headache and periodic recurrence constitute the only similarity between these two conditions.

Migraine generally reveals a hereditary factor, and the onset is usually before the second decade of life. Frequently the onset of the headache is preceded by an aura, usually associated with vasoconstrictive phenomena, which disappears with the onset of the headache and its associated vasodilatation. The headache is closely associated with nausea and frequently with vomiting. Position of the body has no effect upon the headache but exercise may increase the intensity. The headache is markedly relieved by pressure over the temporal or carotid arteries on the affected side, but immediately recurs when the pressure is released. Drugs which constrict the extracranial vessels, such as ergotamine tartrate, will relieve the headache. However, epinephrine, which supposedly should constrict the extracranial vessels, does not relieve the headache but usually changes the location and increases the intensity. This may be due to its dilating effect upon the cerebral vessels.

In regard to the use of ergotamine tartrate, there are certain precautions to be observed. The largest single intravenous dose should not exceed 0.25 mg. nor be repeated more than once in twenty-four hours. The largest subcutaneous injection should not exceed 0.5 mg. for a single dose and no more than two in twenty-four hours. The number of weekly parenteral injections should not exceed two and not more than six per month. When given orally the maximum daily dose should not exceed 10 mg. or 30 mg. per week. The

daily use of this drug is not recommended. Ergotamine tartrate is contraindicated in intravascular infections or obliterative vascular disease. The majority of cases will be relieved by 0.25 mg. of the drug given intravenously, but usually an equal dose is required subcutaneously before an attack is completely dissipated. The subcutaneous route is to be preferred and usually gives effective relief within an hour to an hour and a half. The patient should be instructed in self administration for the same reasons that a diabetic is given similar instructions in the use of insulin. In my experience the oral administration has not been satisfactory. However, there are many favorable reports where adequate relief is obtained by this method, particularly in those cases where nausea and vomiting are not prominent symptoms, and where the taste of the drug is not objectionable.

There are other effective methods. Of these amphetamine sulphate is perhaps the most effective and is administered in doses of 3 to 20 mg. intravenously. If such a test proves effective the regular use of this drug orally in 10 to 40 mg. doses will frequently abort an attack if taken sufficiently early. The use of smaller oral doses given daily is usually effective in decreasing the frequency of the attacks but because of side effects is not entirely satisfactory.

Potassium thiocyanate administered in the same doses as is used in hypertension will also decrease the frequency of attacks but is ineffective in aborting an attack. Another form of treatment is the administration of oxygen for periods of two hours or longer. Mild daily sedation is also helpful in severe cases. Histamine may be effective in migraine but the relief is not as spectacular as when used in histaminic cephalgia.

The clinical picture of histaminic cephalgia is characterized by unilateral headache which may recur with clock-like regularity, usually appearing at night a few hours after retiring. This type of headache is of short duration, usually less than an hour and frequently only a few minutes. The onset is often sudden without a preceding aura. The headache is frequently relieved by position, disappearing when the individual sits up or stands erect, but recurs in the reclining position. The pain is severe and is associated with profuse watering and congestion of the eye, stuffiness of the nostrils and frequently a demonstrable increased surface temperature as well as swelling of the temporal vessels. The distribution of the pain follows roughly the branches of the external carotid artery. There are no trigger zones such as characterize trigeminal neuralgia, but there may be marked tenderness to pressure

over the branches of the external and common carotid arteries during and after an attack.

This type of headache usually occurs in the fourth and fifth decades of life. No hereditary factors are present. This type, in contrast with the typical migraine, is relieved by minute doses of epinephrine intravenously. Some investigations have revealed that a typical attack may be induced by a subcutaneous injection of 0.1 to 1.2 mg. of histamine. Patients who conform to this rather definite clinical picture respond in a spectacular manner to a course of subcutaneous injections of histamine acid phosphate over a period of two or three weeks. The initial dose is 0.05 mg. of histamine base, or 0.25 cc. of the ampule of histamine acid phosphate. This is given twice daily for two consecutive days. On the third day the dose is increased to 0.066 mg. and by the fifth day 0.1 mg. is reached. This dose is continued twice daily for the remaining part of two or three weeks.

SOME PROBLEMS OF THERAPY IN PSYCHOSOMATIC DISEASE

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In the general consideration of the problems of therapy in psychosomatic disease, it must be borne in mind that the field of therapeutics is so broad that for practical purposes we must limit this discussion to problems of psychotherapy. This approach does not imply that the many other special therapies—medicinal, surgical, physical recreational, and occupational are minimized, but it is of value to understand the applicability of each type of therapy and to observe when possible the psychologic value of the total therapeutic approach. It is a common observation in medical practice that until successful psychotherapy is accomplished, many other useful adjunctive therapies fail in their purpose, not because the therapy is ill-advised but because of total neglect or half-hearted cooperation on the part of the patient. A familiar example of this point is the refractory and recalcitrant peptic ulcer patient who agrees to follow his diet and habit schedules, but who nevertheless manages to sabotage the therapeutic program because of his own conscious and unconscious attitudes towards the illness.

The psychologic preparation of the patient for psychiatric study and treatment is the first problem to be considered. It is a difficult one, even in the hands of an experienced psychiatrist, who

occasionally may be one of the first physicians to contact the patient. The nonpsychiatric physician, however, has special problems to deal with which merit discussion. A certain number of patients with psychosomatic disease will, without any suggestion or pressure from their physician, readily recognize psychologic conflicts in themselves which they relate etiologically in some way to their physical symptoms. This sort of intuitive understanding is often not related to intelligence, education, special experiences, or to trial and error failure of other treatment methods, but to a certain "psychologic mindedness" based on elements in the personality structure about which the patient himself is not certain. The patient may only feel a vague "hunch" about his illness, or may have detected a time relationship to a general or specific emotional experience and the physical symptoms. Occasionally, a patient may even feel a vague dissatisfaction with his medical management and request special psychiatric study and treatment. The importance of this point is that sometimes such patients, who are eager and glib for psychologic exploration, actually turn out to be very resistive and disappointing therapeutic prospects.

The physician encounters a more difficult problem in the many patients with psychosomatic illness who violently and steadfastly resist any hint of emotional factors in the production of their symptoms. Any suggestion that psychologic conflicts play even a remote role in their life situation is emphatically denounced.

Another group of patients reluctantly admit that emotional factors may possibly play a major or minor role in their illness, but they speak of the problem in an amused or detached fashion and show little interest in pursuing the relationship further. These patients sometimes remain convinced of a strictly organic etiology for their illness in spite of repeated negative organic studies, and cling to a mystical and obscure organic etiology that has simply evaded detection. At times they sneer at the mention of obvious emotional tensions and readily justify these as being the result of the organic disturbance and unsatisfactory treatment.

In contrast to the above group, some patients readily admit that emotional tensions and conflicts are present and are possibly related etiologically to the organic disturbance, but they cling to their belief that no one can do anything about these problems. They believe only nonpsychiatric treatment is of any value. In a similar vein is the group of patients who admit psychologic problems, but state in a determined way that they

can handle these without assistance and that they want help only in a strict medical or surgical sense. All of the above examples serve to show the various mechanisms of denial of emotional conflict as related to the organic disease and the various rationalized elaborations as to the terms of treatment.

The more resistive an individual is to psychologic orientation in his illness, the more patient and understanding the physician should be in bringing about the discussion of the problem. A common difficulty encountered in the psychologic orientation is the physicians' tendency to treat and advise the patient in terms of his own emotional experience in dealing with personal problems. This often implies a minor or major manipulation of the environment rather than careful exploration of the roots of the problem. The physician who has experienced relief in himself from a psychosomatic syndrome as a result of a divorce following a marital maladjustment may advise his patient to do likewise without having a clear understanding of the patient's marital problems and its relationship to the disease picture.

Another common problem is encountered in the patient who reacts with great anxiety and anger toward the physician when psychologic factors are discussed. The physician who has strong unconscious needs to have his patients on a friendly basis with him may find it difficult to tolerate the patient's hostility which is expressed both directly and indirectly. The provocativeness of some patients is so great that some physicians are driven to do one of two things: either to react in kind to the patient and scold or dismiss him; or because of anxiety and guilty feelings for having stirred up the patient, to make desperate palliative efforts to appease him. The point here is that such provocativeness on the part of a patient merits caution and understanding with full knowledge of the interplay of feeling in the physician-patient relationship. Of special importance is the evaluation of the strength of the patient's attachment to the physician. A common criticism made by physicians, including both those in agreement and disagreement with psychiatric investigation, is that investigation too often stirs up the patient and only aggravates the illness. This problem will be more thoroughly discussed later.

Other types of problems which complicate the psychologic preparation of the patient are those intimately related to the personality problems of the physician himself. It is a common observation in the training of psychiatrists that certain of them have personality problems which make proper psychologic examination and treatment of

patients difficult, and this problem requires much control and supervision. Very often the physician unconsciously identifies himself with the patient and his sufferings, and becomes too sympathetic for the proper penetration of the patient's defenses. Often the physician's own anxieties are aroused by the exploration of the patient's conflicts, either because of similarity of the physician's emotional conflicts, or because of the fear of being unable to relieve the patient's anxiety. The solution to such a state of affairs may be met in several ways: the physician may avoid further probing into the patient's emotional life, and instead nurture the patient's neurotic needs; he may reject the patient because of his inability to tolerate the patient's demands; or as a reaction to his own anxiety, he may become angry and dismiss the patient as untreatable.

Often the nonpsychiatric physician has unwittingly increased the resistances of the patient to examination and treatment. This resistance is not stimulated, as is commonly thought, by casual comments and doubtful interpretations about the patient's psychologic conflicts, but by a basic unconscious skepticism and hostility toward the psychiatric point of view. The physician thus, by subtle attitudes and behavior, may convey to the patient distrust and pessimism which only augments and supports the patient's resistance.

Since we have discussed some of the obstacles in the psychologic preparation of patients, it is imperative that we offer some constructive suggestions. One of the most important assets of the nonpsychiatric physician is his willingness to give patients sufficient time and consideration to discuss their symptoms and psychologic problems. This willingness may be handicapped by a real pressure of other work or the lack of special training. Should the physician become aware of actual dislike for the patient, he should in all fairness to himself and the patient attempt to transfer the patient to another physician. It is notable that some physicians have an intuitive flair for body and organ language, which like slang, has a forceful impact on the patient in terms of mind-body relationships. Time does not permit numerous illustrations of this colorful language.

Psychotherapy begins with the psychologic preparation of the patient, proceeds with the exploratory examination, and continues into many specialized forms. Several hazards in psychotherapy have already been mentioned and should be discussed more fully at this time. It was Jelliffe who pointed out that it is frequently easy to show a patient who is suffering from a psycho-

somatic disease the relationship between his psychologic conflicts and the disease. This fact does not imply that it is possible to make the patient aware and understanding of his basic unconscious conflict, but it does mean that the patient can often be quickly shown that there are significant emotional factors which he has heretofore considered entirely physical. It must be remembered that there is often great danger in achieving this status because the somatic disease serves as a means of discharge of tension. Anxiety is thus dissipated which otherwise would have to be expressed entirely in psychologic phenomena, such as insomnia, depression, unacceptable behavior, outbursts of temper and suspiciousness, alcohol and drug addiction, etc.

A sudden awareness of hostile feelings in interpersonal relationships may strain a marriage or friendship or precipitate more drastic events. Therefore it must be borne in mind that when the somatic disease begins to be understood (even if only superficially) in terms of its psychogenesis, a breakdown may occur in the psychologic balance and nervous economy, with the precipitation of acute anxiety states and sometimes even psychoses. It is for this reason that hasty, ill-advised psychiatric exploration can be of great harm to the psychosomatic disease picture. The fear of this type of reaction leads some physicians to shun psychiatric investigation entirely, "to let sleeping dogs lie," with at times good reason, but often unnecessarily so. In the hands of an experienced psychiatrist who is trained in psychotherapy, there is relatively little risk because he is able to anticipate the danger signals and to proceed cautiously. Exploratory interviews can usually test the rigidity of the patient's defenses and his susceptibility to psychiatric investigation. However, it must again be emphasized that nonpsychiatric physicians and inadequately trained psychiatrists can precipitate unnecessary difficulties by unwise and untimely probing and interpretations. The tendency to do this nowadays is quite tempting when the literature abounds with psychodynamic aspects of psychosomatic disease.

Another consideration that develops in the course of psychotherapy is the so-called temporary "flight into health" which occurs when the patient becomes aware of his psychologic conflicts. This is a misleading sign at times, and may encourage false optimism or more vigorous probing and interpretation. It must be remembered that this remission is often spurious and at considerable distress to the psychic equilibrium. Very often a patient unconsciously will make a neurotic compromise and relinquish a symptom, at the

expense of producing another symptom or a simulated facade of well being. This device, however, is often the patient's way of avoiding the anxiety attendant with further investigation, and must be evaluated carefully.

Another stubborn obstacle in therapy occurs when the patient tends to isolate feeling which is appropriate to the awareness of certain psychologic attitudes and knowledge of conflicts. There may be a glib and ready intellectual understanding of emotional factors, but these are felt in a detached way. This intellectualizing of the patient often spurs the therapist on to more vigorous interpretations with the net result that the symptoms remain essentially unchanged.

A special obstacle in psychosomatic disease, the so-called secondary gain of the illness, has more far-reaching implications possibly than any other type of illness. The patient, in spite of his suffering and inconvenience, has special advantages that in some ways are lacking in the more overt organic diseases and in the exclusively psychiatric illnesses. It appears as if the patient not only has an organic disability but also has emotional distress, which like the organic illness, cannot be relieved by ordinary medical procedures. It should be remembered that there are many gains to an illness as well as disadvantages, but that the primary gain or defensive mechanism causing the symptom-complex is entirely unconscious to the patient. This means that the patient feels no connection emotionally with his basic psychologic conflict and his symptoms. If this is granted then the secondary gain is likewise unconscious. The patient simply tries to make the best he can of his disability and is not just enjoying being sick, as is commonly believed.

There are many various and elaborate conscious extensions of the secondary gain which tend to serve both pleasurable advantages and hostile purposes. This is particularly true of illness involving pensions and special social and economic concessions, and at times this becomes an insurmountable therapeutic barrier. However, the secondary gain of the illness can sometimes be readily approached and attacked in psychotherapy. By showing the patient that his attitudes and feelings, etiologically unrelated to the illness, are expressed by means of his illness, the production of additional guilt, anxiety, indecision, or psychologic stasis may be avoided.

In speaking of psychotherapy, I have reference to the use of psychoanalytic principles and technics which, in my opinion, have contributed most to our knowledge of psychosomatic disease. The technic of psychoanalysis has its place, but

also definite limitations and contraindications and should be applied only when suitable for the purpose of the deepest type of psychologic exploration and treatment. However, it should be remembered that since psychosomatic disease implies that some of the psychic energy is organically expressed, it appears that once the disease has become structuralized its reversal into the exclusive psychiatric sphere is very difficult and at times impossible to accomplish.

When the course of psychotherapy has stalled, the impasse can at times be circumvented by the therapist himself getting counsel to remove his own psychologic scotomata. The use of drugs—such as sodium amytal or pentothal—can at times remove resistance, but there is growing evidence accumulating that narcotherapy has very limited use in the psychosomatic diseases, and must always be preceded and followed by systematic psychotherapy. The use of hypnosis for the purpose of penetrating resistances is gaining importance in psychiatric investigation and research, and its combination with psychoanalytic technics and principles has been shown to expedite the course of psychotherapy. At present, however, the use of hypnosis in psychosomatic disease is an untried but promising weapon. Group therapy is also in the experimental stage and needs more widespread usage.

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THE MANAGEMENT OF SQUINT

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Squint deserves investigation just as soon as it is noted. Perhaps the physician will advise the parents that a child's eyes are normal and that the squint should and probably will disappear, but if he cannot so advise, no valuable time should be lost in beginning the treatment.

Some years ago I saw a 3 year old boy with a squint just recently observed and with no explanatory refractive error. All I could say was that there was no basic defect in the eyes and therefore no reason why binocular single vision and orthophoria should not develop; this proved to be true. I cannot explain the transient squint that he certainly showed for six months. It is unusual to observe the appearance of such a squint after the first year.

Of the paralytic type of squint which I shall discuss first there are two kinds—congenital and acquired. In the congenital type I have seen the involvement of only the external rectus, the muscle being replaced by a band of fibrous tissue incapable of contraction or of demonstrating reciprocal enervation. The characteristic observations are inability of the involved eye to travel outward past the midline, and a retraction of the globe with closure of the lids on looking toward the nose.

Another congenital aberration which may be mentioned here, though it is not paralytic, is the overaction of the inferior oblique muscle in one or both eyes. This may be present in eyes otherwise normal. I saw such a case last summer in a man nearing 40 who had always had diplopia on looking to the right, and also considerable left hyperphoria for which he had for years worn heavy prisms. A simple tenotomy of the left inferior oblique relieved the diplopia, except in extreme lateral rotation, and permitted him to dispense with his glasses.

Paresis may also be acquired through injury or as the result of infection. And here the severity of the injury or infection of course governs the extent of the paresis and the resultant squint. The immediate treatment of the birth, football, or automobile injury is not in our hands, but we are apt to be asked fairly soon to advise. The prognosis must be guarded, for although many nerve injuries, traumatic or infectious, recover spontaneously, some do not, and the resultant deformity is great. I have seen within the month a woman in her forties with complete ptosis, which, when elevated, revealed wide divergence and fifth nerve paralysis. The woman said she had been injured at birth. A large middle meningeal hemorrhage probably occurred. The early treatment consisted in occluding the eye with the paretic muscle to eliminate the troublesome diplopia, but in children this must not be continued too long or amblyopia will certainly develop. Worth has observed this to become well marked in a year. Occlusion of the unaffected eye must also be alternated. After recovery has been accomplished to the fullest possible extent, prisms may be worn if the deviation is not too great, and fitted to the amount of deviation in the position of the head most commonly used. I have a young woman patient for whom I prescribed bifocal prisms eighteen years ago shortly after she suffered an injury which resulted in paresis of the left inferior rectus. The prisms are adjusted to a normal head carriage for distance, and an additional prism added below to permit fusion when

the eyes are depressed for reading. She has learned to handle her glasses well.

The surgical treatment of paralytic squint is none too satisfactory, except possibly when the external rectus is involved. I was able to satisfy a sailor sufficiently to permit him to go to the Pacific for duty by combining a tenotomy of the internal rectus with a transplantation of the external portions of the superior and inferior recti to the insertion of the external rectus. By the time he left the hospital he had motion past the midline on looking up and out and down and out, and the eyes were straight. I have not seen him again, but I got a card from him suggesting that he was satisfied.

In 1941 I saw a young man who had been rejected by the marines because of a pronounced convergence of the left eye. He had no refractive error to account for this, and vision was normal in each eye. He was vague as to the time of onset; he desired operation. Three weeks later he returned to the office with an intriguing story. He said that he was walking downtown one day after the operation when suddenly he had a strange sensation and immediately found that his judgment of distances had improved; he had developed stereoscopic vision. On being questioned, he said that as a boy he had formed the habit—he did not know why—of going about with one eye shut. It is interesting to speculate. Had he induced his own squint after he had developed binocular single vision and stereopsis?

By far the most frequently seen type of squint is the concomitant squint. These cases we like to see, of course, when they are still accommodative in type, before they have become tonic. They ordinarily require little but the relaxation of accommodation and the presentation of equally clear images to the retina by a pair of glasses. And no child is too young for that. If we have the opportunity to investigate him early and find a significant refractive error, there will be no trouble in his wearing glasses tied around his head at as early an age as six months. If the error is sufficient to cause a squint, even a little one likes his glasses.

If we have not seen the squint until after it has become tonic, with the eyes fixed in their new position, with development of anomalous correspondence and amblyopia of some degree, the problem is more difficult, both for us and for the patient and his family. Here it devolves upon us to make very clear to the parents the whole problem, with as accurate a prognosis as possible for all degrees of cooperation on their part. The importance of orthoptic training, both in pre-

venting suppression and amblyopia and in developing fusion and stereopsis, must be made clear. With the increase in industrial insurance requirements, the importance of the factor of amblyopia is constantly increasing; with the increase in aviation, stereopsis takes on greater importance. As society is now organized, these factors do not seem so important for a little girl as the cosmetic one, but in the next generation or two they may supersede it.

So it is important that we begin orthoptic training. It is difficult to see that it is maintained. The patient doesn't like it, the parents don't have time to help, and it often is neglected entirely or at least so much that progress is very slow. School age comes, and the squint is still present. At that age, I believe that, even if perseverance in training might eventually produce straight eyes, surgery is indicated to eliminate the taunting by cruel schoolmates of the new schoolchild. It is bad to start a new career carrying the deformity of crossed eyes, and you have all seen the change that comes over a person, old or young, after his eyes are straightened. I will admit that a large part of the incentive to go on with the orthoptic training is eliminated by surgery, but I still feel that that factor is outweighed by the advantage of a satisfactory cosmetic appearance. There is also the additional advantage of disturbing the anomalous correspondence which may have appeared before it becomes so fixed that constant occlusion be required between orthoptic training periods. This process is difficult to carry out after a child has entered school, and I am sure it is not usually done, though it may be an essential part of orthoptic fusion training.

It is not my purpose here to enter the discussion of the operation of choice for squint. Each type of operation has its advantages and disadvantages. I would like to point out, however, that from a mechanical standpoint neither a muscle shortening operation alone nor a lengthening operation alone will produce rotation of the globe. Each of these single procedures will combine partial rotation with retraction or protrusion respectively, and definite indications should be present for producing these latter results before the single operations are undertaken.

The diverging eye, less usually observed than the squint, presents an unsatisfactory problem. Lenses, in hyperopia, do not give any aid by accommodation, and I do not believe that anyone advocates over correcting myopia to introduce an accommodative impulse. Lenses can aid only by presenting equal retinal images. Fusion training

seems to be even slower in producing good results in divergence than in convergence. Most cases are destined for surgery. (Late appearing divergence, either secondary to an earlier operation for convergence or to some acquired defect in vision is, of course, relieved only by operation.)

My feeling in regard to the carrying out of orthoptic training, either before or after surgery, is that it would be better carried out by an experienced enthusiast who more or less specialized in that field. I would much prefer to refer to such a person or clinic cases which require long guidance rather than to try to wedge the training into a general ophthalmic practice. I realize that this cannot be done except in large population centers.

We do not have all the answers in the management of squint. I have tried to bring up some of the problems which resolve in imperfect results with the hope that suggestions may help bring about better solutions.

Discussion

Thomas L. McKee, M.D., Fort Lauderdale, Fla.: I wish to emphasize the importance of recognizing anomalous retinal correspondence and an associated vertical imbalance before any routine orthoptic or surgical management is planned. Unless anomalous retinal correspondence can be overcome, orthoptics are useless. Surgical correction of an associated vertical imbalance must be carried out also.

Accommodative squint is the type that responds best to nonsurgical therapy. After the routine occlusion and fusion training has been well started it is important to train the patient to relax the accommodation without glasses. This is best accomplished by having the child stand before a mirror so he can see that the eyes are straight when he does not accommodate, and converge when he accommodates. The spherical correction should be gradually reduced in these cases to dissociate convergence from accommodation. Surgery is contraindicated in pure accommodative squint.

The congenital anomaly, Duane's syndrome, was well described by the essayist. I wish to emphasize the importance of recognizing this condition so surgery will be avoided, for it has been well demonstrated that all types of surgical procedures make these cases worse.

All of us have seen cases with eyes straight for a few months after operation only to find that they diverge later. Patients with a high degree of amblyopia-ex-anopsia are more likely to diverge later so they should be slightly undercorrected when operated upon. Cases with normal or remote near point of convergence before operation are a group in which generous recession should be avoided to prevent divergence later.

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**CLINICOPATHOLOGIC
CONFERENCE**
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Summary of Clinical Record

This 46 year old white male was admitted to the Dermatology Service on Feb. 27, 1947, complaining of a generalized rash accompanied by swelling of the face and legs. In May, 1946, routine serologic tests for syphilis were positive and treatment was begun. At that time he exhibited a patch of "eczema" above the right ankle. The treatment consisted of weekly injections alternately in the arm and hip, but the patient frequently skipped one or two weeks. In September, 1946, he noticed that the site of the arm injection became erythematous and developed blisters after each treatment, and that this occurred in either arm used for the injection. A few days later he first noticed redness, vesiculation and oozing in the eczematous patch on the right leg after the intravenous injections. The eczema slowly spread, and new patches developed in various sites over the entire body. The last injection of nearsphenamine was given on Jan. 18, 1947, and the last bismuth on February 15. Three weeks before admission the right leg began to swell, and one week later the eruption became universal. Topical applications of lotions and ointments were given. The past medical and family history was irrelevant.

Physical examination revealed a well developed and well nourished white male, chronically ill and quite uncomfortable, but mentally alert. His skin was edematous and erythematous, with excoriations, crusting, and oozing at various sites on the face and extremities, and much scaling elsewhere. The scalp was covered with a heavy scale and showed advanced presenile alopecia. The scaling extended over the pinnae to the external auditory meatus, but the canals were fairly clean and the drums intact. The pharyngeal wall was injected posteriorly. The neck and external aspects of the chest were normal. Percussion and auscultation revealed no abnormalities in the lungs; the left border of cardiac dullness was 2 cm. lateral to the midclavicular line; the cardiac tones and rhythm were normal, the pulse was 84 per minute and the blood pressure measured 136/76. The abdomen was flat, and without tenderness or palpable solid organs. The external genitalia

were normal except for edema of the penis. Rectal examination was negative. The extremities, especially the legs, were edematous. The neurologic examination was negative. Cultures from the oozing areas yielded a predominance of B-hemolytic streptococci as well as hemolytic *Staphylococcus aureus* and diphtheroids. Urinalyses were negative except for a trace of albumin in two of fifteen specimens. The hemoglobin was 11.5 gm. per 100 cc., with 3,750,000 red cells per cu. mm. and 15,750 white cells. The differential leukocyte count was 54 per cent segmented polymorphonuclear leukocytes, 13 per cent eosinophils, 1 per cent basophils, 18 per cent lymphocytes and 14 per cent monocytes.

Treatment was begun with bed rest, cotton seed oil to the scaling areas and continuous cool boric acid wet dressings to the oozing portions. Satisfactory sedation was obtained with phenobarbital and aspirin. The scaling, oozing and edema decreased slowly, the low-grade fever disappeared after four days, and the patient was quite comfortable. On March 4, 1947, when the presence of *Staphylococci* and *Streptococci* was discovered, penicillin was given intramuscularly in doses of 30,000 units every three hours, and improvement seemed to accelerate. On March 16 the patient's temperature rose to 100.8 F. but was normal four hours later. The next day parts of the skin surface began to ooze and there was also a recurrence of the pruritus. The sedatives were changed to paraldehyde, the penicillin was discontinued, and wet dressings were again instituted. On March 18 his condition was unchanged, but the next morning the patient became disoriented and incontinent. Restraints were necessary, and fluids administered by hypodermoclysis. He became comatose on March 19, 1947, with a terminal rise in temperature, pulse and respiration, and death occurred thirty minutes later.

Clinical Diagnosis

Exfoliative dermatitis.

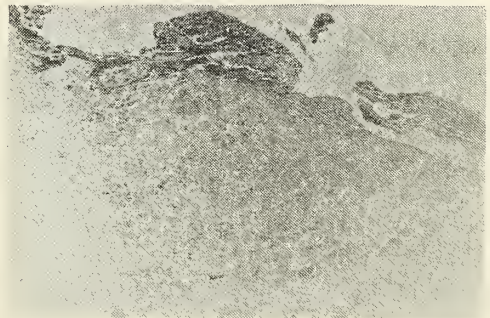


Fig. 1. Skin: slough of epidermis.

Necropsy Findings

The striking lesion was severe, generalized exfoliative dermatitis with excoriations over arms and legs (fig. 1). All the tissues were dehydrated. Chronic infectious granulomatous lesions of milary size were present in spleen, liver, lymph nodes, and right lung (fig. 2). These lesions are compatible with, but not diagnostic, of syphilis. Levaditi stains for spirochetes and acid-fast stains were negative. The liver showed fatty metamorphosis and healing central necrosis. The latter

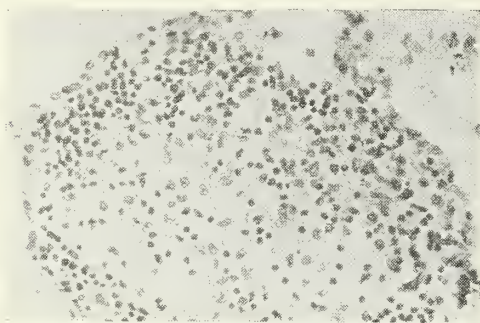


Fig. 2. Granulomatous lesion in lung.

finding may have resulted from either arsenical intoxication or severe toxemia. The entire vascular system was congested, but extreme degrees were observed in the vessels of brain, mesentery, and gastro-intestinal tract. Thrombosis was noted in some of the pial vessels, but no area of cerebral hemorrhage or softening was found. All the viscera were congested. The brain was diffusely swollen. The bone marrow showed mild hyperplasia. The lower lobe of the left lung was collapsed, and the explanation for this finding is not readily apparent. The right testicle was absent, while the left testis and epididymis showed atrophy, fibrosis, and absence of spermatogenesis. Incidental findings included focal fibrosis of the myocardium, a Meckel's diverticulum, adiposity of the pancreas, and old peritoneal and pleural adhesions.

Necropsy Diagnosis

Generalized exfoliative dermatitis.

Chronic infectious granulomata in spleen, liver, lymph nodes, and right lung, compatible with syphilis.

Syphilis, latent, seropositive (clinical).

Central necrosis of liver, healing.

Fatty metamorphosis, liver.

Congestion of viscera.

Diffuse brain swelling.

Thrombosis, pial vessels, cerebrum.

Collapse, lower lobe, left lung.

Dehydration.

Atrophy and fibrosis, left testis and epididymis.

Absence, right testicle.

Focal myocardial fibrosis.

Meckel's diverticulum.

Adiposity, pancreas.

Old peritoneal and pleural adhesions.

Dr. R. G. Carney (Dermatology): This 46 year old male was admitted after about eight months of arsenical treatment. He presented a typical picture of exfoliative dermatitis with edema of the face and all four extremities, and a generalized erythema with oozing and scaling. He got along very nicely, made steady progressive improvement in his condition during the first three weeks of his stay and then began to go downhill rather suddenly. The remarkable thing about the case to us was that he had made such a very fine improvement, perhaps had done better than we would have expected in the amount of time that he was in the hospital when he suddenly and unexpectedly declined and died.

Dr. E. D. Warner (Pathology): This is a case of exfoliative dermatitis which could have an arsenical etiology. There were milary granulomatous lesions which I think were incidental—certainly not in any way responsible for the individual's death—and which might be due to any of a number of causes. He had an atrophic left testis and absence of the testis on the other side.

Dr. E. G. Gross (Pharmacology): There are four distinct types of arsenic poisoning. One is the local corrosive action as a result of local application. This is rather slow in onset, but progressive and deep, producing necrosis of the tissues with which it comes in contact. Two other types of inorganic arsenical poisoning are the acute form due to ingestion of a large dose and the chronic form due to slow ingestion or contact with small amounts over a long period of time. The fourth type is that produced by the organic arsenicals.

It is quite evident from all the information we can obtain that the trivalent arsenicals are responsible for the poisoning. The organic type of poisoning is more varied apparently due to breakdown of the original compound to the more toxic organic compounds and also to some arsenious acid, a product of this breakdown. In the acute form of poisoning with inorganic arsenicals a very small percentage die very suddenly of a paralytic type poisoning. The majority of acute poisonings run several days and their symptoms can mainly be accounted for by the local irritant action in the gastro-intestinal tract and the specific action on the capillaries. The trivalent inor-

ganic arsenicals are a poison to capillaries so that their permeability is increased and plasma is no longer retained within the capillaries. This latter fact probably accounts for the rice-water stools, the diarrhea and vomiting and the great thirst. There is also localized edema especially around the face, eyes, and ankles, swollen liver, sometimes jaundice, and patients may die in three or four days.

In the chronic form of inorganic poisoning the onset is rather insidious. The early symptoms can be confused with almost anything; but as it progresses more definite symptoms occur such as generalized coryza, edema under the eyes, slight edema of the ankles, hoarseness, and stomatitis plus a variety of skin lesions. These skin lesions are quite varied from simple pigmentation to keratosis of the palms and soles of the feet to the severe type of exfoliative dermatitis accompanied by swollen liver, jaundice, and occasional severe renal damage. As it progresses further, neurologic symptoms appear such as sensory paralysis, muscular paralysis, especially of the legs, and areas of anesthesia.

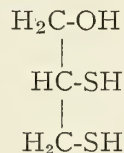
The organic type of poisoning is again due to the trivalent forms of arsenicals. There are a great many classifications of arsenical poisoning of this type and we can divide them into several stages. The first early stage, known as the nitritoid symptoms of poisoning, is not due to the arsenicals. It is due to the physical state, because we seldom see it with pure arsenicals such as mapharsen. The Herzheimer reaction again is not due to the arsenicals. These are local exacerbations of the lesions and only occur on the first injection in latent syphilis.

There are symptoms of poisoning which develop anywhere from one to eight hours after the injection which are probably due to breakdown products of the organic arsenicals to more toxic organic compounds. These symptoms are usually not very severe, but headaches and fever generally occur. Occasionally, however, rather marked dermatologic conditions may develop. Exfoliative dermatitis is the severe reaction and may develop fairly early accompanied by renal damage with swollen liver. Very frequently death occurs. The other group of symptoms are those which come on much later, anywhere from a week to several weeks after the injection, and they are symptoms which are referred to the skin (such as exfoliative dermatitis) with or without jaundice, marked renal damage and neurologic symptoms such as hemorrhagic encephalitis and paralytic conditions.

We have had no satisfactory treatment for

arsenical poisoning until the recent introduction of BAL about which Dr. Featherstone will tell us.

Dr. R. M. Featherstone (Pharmacology): My comments on BAL will be of a general nature. BAL (British anti-Lewisite) is a very simple thing chemically, and it does tie up arsenic very effectively. Following is its chemical formula:



As you can see, it is merely glycerol with two of the hydroxyl groups replaced by sulfhydryl groups. One theory concerning the action of BAL is that the arsenic, which has combined with the -SH or sulfhydryl groups and blocked the action of a number of vital enzyme molecules, is pulled into an even less dissociable complex with the BAL. The complex is then directed out of the body through the blood and urine. BAL was brought to the front primarily through the developments following the observation of Dr. Peters some years ago that glutathione was somewhat effective in protecting animals against toxic doses of arsenic. Glutathione, you remember, is a polypeptide made up of glutamic acid, cysteine and glycine; the most active group there is the sulfhydryl group of cysteine. This led to the study of a great number of dithiols and monothiols, and we have BAL as the most promising of that group.

BAL was primarily studied in connection with Lewisite; but at the same time at Johns Hopkins where some other arsenic gases were being prepared, there was a number of people poisoned by the dust that was found in the air around there, and BAL was tried out in these cases. It seemed to be very effective in overcoming the dermatitis which came about through the poisoning by the arsenic dust and in these cases it was applied as 5 per cent or 10 per cent ointment. Immediately upon application there was a great burning, but this lasted only about an hour and the patient had great relief from his dermatitis. Very shortly the dermatitis was completely healed in almost every case. Further studies then were done at Johns Hopkins in cases of poisoning by the arsenicals used in the treatment of syphilis. Although a great number of cases have not been reported yet, the compound looks to be a very promising one. In about 21 out of 23 cases recovery from exfoliative dermatitis was complete in a few days. These people had severe burning sensations, especially if the ointment was placed on the area of the dermatitis; but if it was placed on another

area, the absorption was equally good and the dermatitis went away anyway. Intramuscular injection was then tried. This proved very successful.

The usual method is to inject BAL in peanut oil and benzyl benzoate. BAL itself is a liquid which has a skunk-like odor and in the solvent mentioned can be easily injected. The dose has to be regulated fairly closely. Usually the average doses are between 100 and 200 mg. at one time (about 5-8 mg. per kilogram). This treatment in these persons who were poisoned by arsenicals in the treatment of syphilis was quite successful and the dermatitis cleared up. In 6 out of the 21, there were relapses. In these dermatitis reappeared but even these responded to further courses of BAL.

The course of BAL treatment begins with a fairly high dose of as much as 300 mg. This is followed within twelve hours with a couple of doses as high as 150 mg. This latter rate is maintained for another six to ten days. The 8 mg. per kilogram maximum dose of BAL is tolerated by most people. If it is not tolerated well, the dose can be cut and it can be given more often. There seems to be no cumulative action. The symptoms that are most usually noted from BAL are rather mild: burning of the eyes, nose, mouth, skin and salivation and possibly vomiting, some anxiety and weakness. If the dose exceeds this 8 mg. maximum, more serious symptoms such as acidosis, hyperglycemia and tachycardia occur, finally leading to convulsions. One useful intravenous preparation is a combination of BAL with glucose. Reports are beginning to come into the literature on the use of BAL glucoside, and apparently, it is also very effective.

BAL is effective for poisonings by metals other than arsenic. A great many have been tested, and it has been found that BAL will effectively combat arsenic, antimony, bismuth, cadmium, mercury, gold, nickel and chromium. It doesn't seem to do very much against lead or thallium or selenium.

Dr. Carney: This case poses several problems which I think are fairly important. In the first place we have the question of whether this exfoliative dermatitis, for which the patient was admitted, was due to arsenic. He had received his last arsenical injection about a month and a half before he was admitted. His dermatitis came on very slowly over a period of 8 months or so and began as a patch of eczema which he had before treatment was begun. I don't think there is any way that you can clinically differentiate an arsenical exfoliative dermatitis from an ex-

foliative dermatitis due to phenobarbital or sulfadiazine or any other drug. Dr. Nomland tells me that there are certain cases of eczema which are made worse by arsenicals—a little information not in any textbook so far as I can find. Arsenicals given to certain people with infectious eczematoid dermatitis may produce an exfoliative dermatitis which is different from the true arsenical exfoliative dermatitis. There may have been over-treatment of the patch of eczema or perhaps of the reactions on his arm as well. Therapeutic dermatitis, if continued and not recognized, can go over to exfoliative dermatitis.

Then we have the question about the flare-up in this case. The man had done relatively well for two and a half weeks, seemed to be making a very nice improvement, and then had a flare-up of his skin with sudden general symptoms and death. I think that it is very unlikely that arsenic would produce this type of reaction two months after the last dose. It is possible that the local infection might have been a factor although the organisms which were present I would generally expect penicillin to control, and it seemed to do so during the ten or twelve days he was on penicillin. It is of course possible that before hospitalization he had received penicillin locally to his eczema, and it is theoretically possible that the injection of penicillin then could produce a widespread reaction. However, there was a twelve day interval between the starting therapy and the flare-up which is a trifle long. Penicillin, as well as the sulfonamides, is one of those drugs in which we see this combined sensitivity where the person may become sensitive to local application and also be sensitive to the drug internally. We also have to think of a superimposed exfoliative dermatitis or reaction from phenobarbital.

When this man came, the question of treatment with BAL was brought up; but it took several days for us to secure some, and by that time he was doing so well that we did not use it.

Dr. DeGowin has brought up the problem about the mortality rates in syphilis untreated as against the mortality rates in the treatment of syphilis. Mortality figures in syphilis are just about impossible to get or evaluate. The standard figures on the mortality rate in syphilis are based on Brunsgaard's work. Between 1891 and 1910 Boeck, who was in charge of the syphilis clinic in Oslo, decided that potassium iodide and mercury were of little or no value in the treatment of syphilis. Consequently, all the patients that came in for treatment of syphilis during that twenty year period got either no treatment at all or a little of these two drugs.

About 1925 Brunsgaard set out to trace down these patients. There were something over 2,000 of them; he succeeded in tracing down 309 who were still living and 164 who were dead but in whom he could to some extent discover the cause of death and the condition at death. Forty of the latter cases had had postmortem examinations. At re-examination or at death 9.5 per cent of these patients had neurosyphilis, 12.8 per cent had cardiovascular syphilis, 12.2 per cent had benign late syphilis, 14.1 per cent had latent syphilis with positive serology, 27.9 per cent were listed as spontaneous cures (they were latent syphilitics with negative serology), 0.8 per cent died of syphilis other than cardiovascular or neurosyphilis and 22.6 per cent had died of causes other than syphilis. Breaking these figures down means that out of every hundred patients acquiring syphilis untreated, 23 will get late syphilis with incapacity or death, that 12 will have benign late syphilis, active lesions of one kind or another but not serious ones, and that 64 per cent will be unharmed with either a positive serology and nothing else or completely negative.

The only question brought up by these figures is that one might ask if syphilis contributes to the deaths from other causes. Another estimate that I was able to find was that out of every 100 patients with early syphilis receiving no treatment 25 per cent of them had serious late syphilis develop later, 15 per cent had benign syphilis, 30 per cent latent and 30 had spontaneous cures. With inadequate treatment 40 per cent developed serious late lesions, 15 per cent had benign late lesions, 30 per cent became latent and only 15 to 20 per cent developed spontaneous cures. With thorough treatment less than 5 per cent developed late serious lesions, less than 2 per cent late benign lesions, 5 per cent became latent and 85 to 95 per cent were considered cured. Remember that is early, primary syphilis, seronegative or seropositive, and secondary syphilis. Then I came across some unnerving figures from actuarial reports from one of the big life insurance companies. Taking nonsyphilitic persons as a whole with an expected risk of 100 per cent, those persons with syphilis who had had inadequate or unsuccessful treatment had a risk of somewhere around 140 per cent. Those who had had adequate treatment (the treatment had been already given and doesn't include treatment mortality), had an approximate risk of 160 per cent. They also show that after two years of so-called modern treatment where the patients were symptom free and seronegative that there was about 147 per cent risk as against a normal nonsyphilitic individual at 100 per cent

and they showed that the incidence of carcinoma, pneumonia and tuberculosis was $1\frac{3}{4}$ to $2\frac{1}{2}$ times higher among these treated syphilitics. I am not sure what these figures mean regarding the mortality rate in persons who have had adequate treatment.

Regarding the mortality rate from antisymphilitic treatment, the treatment with penicillin apparently shows no mortality. Dr. Moore's figures with the arsenicals are one death for every 1,250 patients or for every 12,000 injections and for bismuth one death for every 19,500 patients or for every 175,000 injections. There is no way of determining the mortality rate overall throughout the country in all hands from the treatment of syphilis. I think it would run a great deal higher. One case of exfoliative dermatitis has been produced here, and it was a very mild one. It is the only one I know of where there was no prodromal symptom or sign. The rest of the patients we have had have all come from outside, and every one of them to my knowledge has had a history of skin eruption either one or two or three times before the dose which produced the true exfoliative dermatitis. I think where those preliminary rashes are ignored the mortality rate from the treatment of syphilis is a great deal higher.

Among the deaths in Dr. Moore's cases almost half of them were due to acute yellow atrophy, about 18 per cent from exfoliative dermatitis and about $15\frac{1}{2}$ per cent from blood dyscrasias. Hemorrhagic encephalitis is much less common. He states that pregnancy makes no difference and in this one thing we are in complete disagreement with him, feeling that pregnancy is a definite hazard in arsenical treatment of syphilis and that rates for the development of hemorrhagic encephalitis in pregnant women are much higher than for nonpregnant women or for men. The mortality rate in women from arsenicals is twice as high as in men, due entirely to the more frequent incidence of acute yellow atrophy. The mortality in colored patients is three times as high as in whites. Arsphenamine produced about 50 per cent of the eruptions. One of the fatal cases was due to mapharsen, which would be about 2 per cent in his series. Mapharsen, when given by continuous intravenous drip (the so-called five-day treatment), had a very high mortality rate, however. The development of hemorrhagic encephalitis ran as high as 1 per cent in some clinics.

We see generally two main types of skin reactions from arsenic in the form of mapharsen or particularly of arsphenamine. The first and most common is the so-called erythema of the ninth day

which, as far as I am concerned, is similar to our other drug eruptions. It may or may not indicate a permanent sensitivity. Certain figures show that if the retreatment is started with an arsenical within two weeks after the eruption appeared 77 per cent will be intolerant, and if it is delayed from four to eight weeks only some 28 per cent will be intolerant. I think those figures have been borne out in this clinic in that most of these patients who have been given a rest will be able to tolerate the treatment without any recurrence.

Exfoliative dermatitis is the other important cutaneous reaction and a very serious one. The exfoliative dermatitis patients are always sensitive afterward, and we never give them arsenicals in the future. I can't state whether inorganic arsenic will get by all right because we tell them to stay away from it. Occasionally tryparsamide can be tolerated. These patients also show a local sensitivity in that most of the true exfoliatives will have positive patch tests when their dermatitis is cleared. This came to light after 1935 or so when they finally separated out the scarlatiniform type of erythema of the ninth day with desquamation which they were counting as exfoliative dermatitis in a mild form; those patients uniformly do not show positive patch tests with the arsenicals. The other cutaneous eruptions are fairly rare.

Dr. Warner: I would like to ask Dr. Gross two questions: first, what does he think about the two and one-half month length between the last dose of arsenic and the death as being evidence against this being an arsenical exfoliative dermatitis; second, in the reactions to the organical arsenicals as used in the antisyphilitic treatment, is the amount of arsenic given in the ordinary therapeutic dose sufficient to produce arsenical poisoning were it converted into one of the inorganic trivalent arsenical compounds rapidly in the body or is this a manifestation of a drug sensitivity? That is, is it a reaction to an amount of arsenic which, if it were in the form of one of the more toxic compounds, would still not be large enough to be harmful?

Dr. Gross: The two and one-half months seems too long to be related to arsenic although six to eight weeks is given by some as a reasonable time. As to the other question, over a long period enough arsenic could be given to produce chronic poisoning. These early symptoms which produce exfoliative dermatitis at times certainly could not be described as sufficient arsenic to produce toxic symptoms over short periods. Drug idiosyncrasy as well as breakdown products could be assumed.

Dr. Featherstone: I would just like to make one more comment about BAL. We do not think that the arsenic itself in poisoning ties up naturally occurring sulfhydryl groups. BAL provides a means of pulling arsenic away from the naturally occurring SH groups.

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

Meeting of the Board of Trustees Jan. 11, 1948

The Board of Trustees of the Iowa State Medical Society met in the central office Sunday, Jan. 11, 1948, with the following doctors present: John I. Marker, W. A. Sternberg and L. R. Woodward of the board; H. A. Spilman, president; J. E. Reeder, president-elect; John C. Parsons, secretary; Robert L. Parker, assistant secretary; J. A. Downing, treasurer; Fred Sternagel, D. C. Conzett and Martin Olsen of the Committee on Medical Service and Public Relations; and J. W. Billingsley of the Legislative Committee.

Meeting was called to order about 10:20 a. m.; minutes were read and approved and bills were authorized. New office equipment needed for 1948 was discussed and the purchase of four new floor fans, a new mimeograph and multigraph type case were authorized. The secretary, assistant and executive secretaries were instructed to arrange for an audit of the books for 1947; the editor was reappointed for another year; and the budget for 1948 was discussed and determined. Meeting adjourned at 12:10 p. m.

MEETING OF THE COMMITTEE ON MEDICAL SERVICE AND PUBLIC RELATIONS

Jan. 11, 1948

The Committee on Medical Service and Public Relations convened at 12:10 p. m. following the trustees' meeting. Present in addition to those attending the first meeting were Doctors E. E. Shaw, C. T. Maxwell and H. E. Stroy of the Committee and Channing Smith of the State Department of Social Welfare.

Dr. Olsen was authorized to proceed with changes in payments by Iowa Medical Service as approved by the Executive Council Oct. 8, 1947. Dr. Sternagel next discussed what had been done to carry out the vote of the Committee on employing a field secretary and introduced an applicant. His employment was approved and his duties were outlined in general terms. Dr. Smith presented some problems of the State Department of Social Welfare; they were discussed and the meeting adjourned about 3:00 p. m.

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STATE DEPARTMENT OF HEALTH

Walter L. Biering

COMMUNICABLE DISEASE REVIEW—1947

During the year 1947, the reported occurrence of the following diseases was below the average for the nine year period 1938-1946: diphtheria, measles, pneumonia, poliomyelitis, scarlet fever and typhoid fever. Diseases showing above average prevalence included influenza, meningococcus meningitis, brucellosis and whooping cough.

Diphtheria in 1947

Reported cases of diphtheria numbered 100 for the year, less than half the expected number of 210 cases, representing the average annual number for the past nine years. The following table (Table I) shows the number of cases that were notified to the State Department of Health for the months of 1947. Figures in the column to the right represent a nine year average of the reports by months for the period 1938-1946.

TABLE I
Diphtheria in Iowa

Months	1947 Reported Number	9-year Average 1938-1946 Expected Number
January	5	22
February	9	17
March	9	18
April	2	18
May	10	11
June	7	16
July	15	7
August	4	12
September	7	34
October	4	16
November	16	25
December	12	14
TOTALS	100	210

Other Conditions With Below Average Prevalence in 1947

Although notified cases of measles were fewer in number than expected in 1947, prevalence of this disease is currently on the upgrade. Reported cases of poliomyelitis totaled 176, compared with 187 or the average number for the previous nine year period. Scarlet fever cases numbered 1,398 and typhoid fever 46, totals considerably below 2,416 and 62, the respective averages for the years 1938-1946. Four cases of smallpox were reported in the past year, com-

pared with a previous nine year average of 63 cases.

Diseases With Above Average Prevalence in 1947 *Influenza*

Associated with the explosive outbreak which developed early in March of 1947, cases of influenza numbering 23,215 were reported to the Department. Thorough study of throat washings in public health laboratories revealed that the causative agent was an atypical strain of influenza A

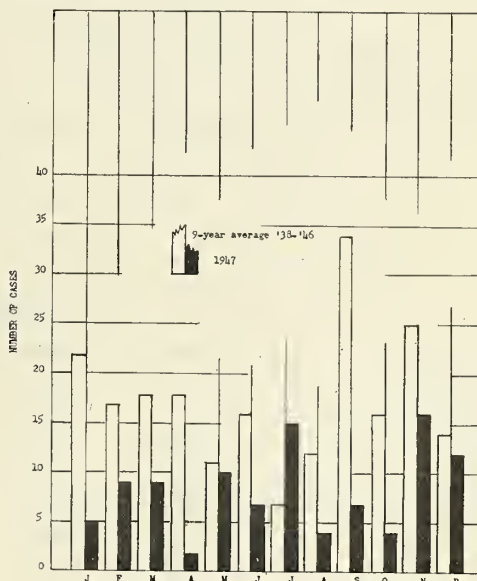


Fig. 1

DIPHTHERIA IN IOWA—1947
Reported Morbidity Compared with the Expected Average
1938-1946

virus. Because of the lack of "antigenic crossing over," the influenza A and B vaccine which has proved highly effective in protecting individuals against ordinary strains of A and B virus, was apparently ineffective in the presence of the virus which swept many parts of the country early in the past.

Meningococcus Meningitis

The epidemic form of meningitis caused by the meningococcus showed above average occurrence



Fig. 2
MENINGOCOCCUS MENINGITIS IN IOWA—1940
Comparison with Expected Average for Years 1938-1946

in 1947. The reports by months compared with the previous nine year average are depicted in the accompanying line diagram (fig. 2).

Whooping Cough

Pertussis, usually a disease of infancy and

childhood, was epidemic in various communities of the state during the months of 1947. The accompanying line graph (fig. 3) shows cases of the disease for the months of last year (solid line), the broken line representing the expectancy for the months of 1947 (nine year average 1938-1946).

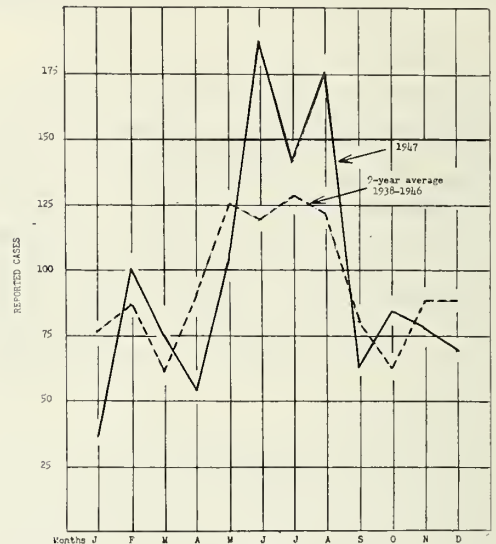


Fig. 3
WHOOPIING COUGH IN IOWA
Comparison with Expected Average 1938-1946

MORBIDITY REPORT

Disease	Dec. '47	Nov. '47	Dec. '46	Most Cases Reported From
Diphtheria	12	16	13	Dubuque, Muscatine, Polk, Wright Union
Typhoid Fever	1	1	0	Dubuque, Polk, Story, Washington, Woodbury
Scarlet Fever	230	152	117	Crawford
Smallpox	1	0	1	Lee, Muscatine, Woodbury
Measles	391	58	28	Delaware, Des Moines, Dubuque, Polk
Whooping Cough	70	79	91	Warren (4), others scattered
Brucellosis	31	67	43	Black Hawk, Des Moines, Johnson, Mahaska
Chickenpox	382	204	388	Dubuque, Humboldt
German Measles	4	9	2	
Influenza	0	4	2	
Malaria	0	0	4	
Meningitis	2	6	2	Benton, Grundy
Mumps	244	82	88	Linn, Woodbury, Greene
Pneumonia	3	4	11	Black Hawk (2), Clinton (1)
Poliomyelitis	3	18	13	Appanoose, Linn, Woodbury
Tuberculosis	52	58	50	For the State
Gonorrhea	72	113	114	For the State
Syphilis	167	355	133	For the State

The JOURNAL of the
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New Field Secretary for State Society

For the past two years the officers of the State Society and the members of the Committee on Medical Service and Public Relations have felt the need for a field secretary to relate the work and activities of the society more closely to the work and activities of individual members. During the war the ban on travel, together with the pressure of work on each doctor, created a gap in the close contact which prevailed during the prewar years. Officers and committee members found it difficult, if not impossible, to visit as many county societies as they wished. The policies of committees have been relayed to the members by means of the printed word for the most part; the reaction of the doctor has not been relayed back in the vast majority of cases.

In 1947 the dues of the State Society were increased to provide for more and better public relations. The committee endeavored to utilize the funds to best advantage, one of its ventures being the first state meeting on medical service and public relations held October 9. This was a definite attempt on the part of the committee to convey to each county society the work encompassed within it.

Now, however, the committee has gone a step further. It has, with the approval of the board of trustees and the officers, employed a man to act as field secretary. It will be his function to visit meetings of county medical societies where desired; to talk to individual doctors, learning their problems and questions; and to convey their

inquiries and wishes to the central office and through it to the officers or committees involved. He is to serve as a channel for the interchange of questions and ideas between the officers and committees and the doctor in practice.

The man selected for this work is Mr. Donald L. Taylor, a veteran who has had good training in this type of endeavor. He will report for duty February 1 and at first will spend most of his time in the central office obtaining a background of State Society activities, policies and philosophy. It is hoped, however, that before long he can visit different parts of the state and bring back a report of what members of the medical profession feel they need from their state office.

Des Moines County Health Unit

An illuminating and instructive brochure entitled "Thru the War Years, 1941-1947," has recently been compiled by the Des Moines County Board of Health. This attractive and well illustrated booklet summarizes the work of the health unit of this county.

During this six-year period it was possible to achieve a number of objectives. For instance, generalized public health nursing service was made available. A complete system of recording and reporting of communicable disease, births and deaths was developed. Vaccination and immunization programs in cooperation with the county medical society raised protection levels from 20 to 70 per cent. A center was established for the rapid treatment of venereal disease, and a modern health center for housing all public health facilities in the community was constructed. In Burlington the U. S. Public Health Service Standard Milk Ordinance and Standard Restaurant Ordinance were adopted and enforced, and a Trailer Camp Ordinance was passed. Water and sewer systems were expanded in smaller towns, and 90 per cent of the unsanitary outside toilets and 40 per cent of the dumps were eliminated.

In addition to the provision of large chest x-rays for tuberculosis contacts, food handlers and teachers, tuberculin tests were given all school children and miniature film surveys made of industry and high school students. Funds were made available for any required treatment for polio victims. The Health Department developed a program to furnish medical care for indigents. Generally speaking, a wholesome community attitude in regard to public health was developed.

These objectives were attained during the period when the Iowa Ordnance plant brought an additional 13,000 employees to a metropolitan

area of normally 28,000. Des Moines County is certainly to be congratulated upon these results. Other counties might well benefit by reviewing the achievements reported.

Vitamin E in Vascular Disease

For many years, the vitamins have been considered to be mere food accessories that could be taken or left alone. However, the work of Shute, Vogelsong, Skelton and Shute,* based on Mason's original observations of E deficiency, opens a new concept in the treatment of vascular disorders. These studies show irrefutable evidence that patients suffering with coronary disease, hypertension, thrombophlebitis, thromboangiitis obliterans, indolent varicose ulcers, Raynaud's disease and cerebral thrombosis derive benefit from the administration of from 300 to 1100 mg. of a tocopherol in therapeutic dosage for a period of nine to forty days.

It has also been advocated that these patients who show clinical improvement be maintained on 100 to 150 mg. for an indefinite period of time. The authors postulate the theory that perhaps this substance may soon rank as a true chemotherapeutic agent to be administered in doses comparable to those of the sulfonamides and penicillin and even perhaps as a preventive of thrombophlebitis in herniotomies and pelvic operations.

Although the series of reported cases is small, it appears that the tocopherols may achieve results comparable to surgical interruption of the sympathetic chain by either replenishing a rapid wasting of tocopherals or combating of the continued production of some noxious bodily antagonist.

At least it is possible that there may be a medical method of treating a medical condition without the necessity of resorting to radical surgical procedures on the sympathetic nervous system which have, of necessity, been empirical and radically destructive.

*Shute, E. V.; Vogelsong, A. B.; Skelton, F. R.; and Shute, U. E.: Influence of vitamin E on vascular disease. *Surg., Gynec., and Obstet.*, lxxxvi:1-8 (January) 1948.

Second Grass Roots Conference

The second Grass Roots Conference for county society officers was held at Hotel Statler in Cleveland Tuesday night, January 6. The attendance seemed larger than that at the first conference held in Atlantic City, and certainly the discussion was more to the point and consequently seemed of more value. The program consisted of three discussions: one on the general practitioner and

how to make more of him, given by Dr. Charles F. Wilkinson of Ann Arbor; the second on upholding the prestige of the general practitioner by Dr. Wingate M. Johnson of Winston-Salem; and the last on the general practitioner and community leadership by Dr. Fred Sternagel of West Des Moines. All three speakers talked about twenty minutes, and the forty minutes following each talk was allotted to questions and answers and general discussion. Microphones were set up in the audience so that questions might be heard clearly, and the plan worked well. A great deal of interest was manifested, and the meeting might have lasted far into the night had it not been adjourned at eleven as scheduled.

Summing up conclusions, one might say there is a problem in how to create more general practitioners but no problem at all about upholding his prestige nor the opportunities given him to be a community leader. The great majority of those present agreed that the general practitioner enjoyed a place in the community and an esteem granted in much smaller measure to specialists who are not as close to their patients.

Interim Session of the House of Delegates American Medical Association

The interim session of the House of Delegates of the American Medical Association was held in Cleveland Jan. 5 and 6, 1948. The meeting was called to order at 10 a. m. by Dr. Roy W. Fouts, Speaker of the House. First order of business after roll call was the selection of a recipient for the general practitioner's award. Three names were presented as candidates, and upon election, the award was made to Dr. Archer Chester Sudan of Kremmling, Colo. Dr. Sudan, on leave from the University of Chicago in 1926, was struck by the extreme need and complete lack of medical services in the town. He requested a year's leave of absence from the University, but found the need for his services was so great that he resigned his position on the staff at the University of Chicago and continued in the private practice of medicine in Kremmling. Since that time he has taken care of an area of 1,867 square miles, this lying at an average altitude of over 7,000 feet.

Dr. Bortz, in his address as president, mentioned the difficulty of finding a place with adequate facilities for housing the American Medical Association. In discussing the relation of organized medicine to the medical student, he said he felt the relationship should be on a state and local level rather than national, although the Asso-

ciation has in the past year inaugurated new policies to keep medical students informed of its activities and functions. He mentioned the handbook which is ready for distribution. This carries a short description of all departments and Councils of the Association, and its purpose is to acquaint doctors everywhere with the scope of work being done at headquarters. Dr. Bortz spoke also of the responsibility of doctors for interpreting correctly to the public the aims and purposes of organized medicine. He reiterated his belief in the important part the Woman's Auxiliary can play in public relations but stressed that the medical profession should keep the women well informed on the issues facing it today. He emphasized the need for committees on emergency medical service on a state and local level, saying this was an outcome of atomic research and necessitated by it.

Dr. Bortz also stressed provision of medical care for all the people; he discussed plans for a new building for the American Medical Association which will embody beauty as well as utility; and he mentioned the award made to the Association by the American Pharmaceutical Association.

Dr. E. L. Henderson, chairman of the Board of Trustees, reported an Association deficit of \$170,495 for 1947 and an anticipated deficit of \$100,000 for 1948. He said advertising rates had been raised but costs had advanced even faster. In 1929 the cost for printing a 128 page journal was 8.5 cents per copy; in 1947 it was 12.6 cents. In January, 1947, the Association had 638 persons employed; in August it had 707. About one-third of the increases occurred in the printing department, two-thirds in all other departments. Paper stock costs increased from \$334,000 in 1946 to \$460,000 in 1947.

Among other matters referred to the Board of Trustees he mentioned that of hospitals in the practice of medicine. The recommendation is again made that hospitals be informed that pathology, anesthesiology, radiology and physiotherapy are specialties belonging to the practice of medicine and not to the hospital. He also told of participation in the World Medical Organization, difficulties encountered, and the decision reached at the last meeting to have a permanent office in New York City, with Dr. Charles Hill of England temporary secretary. There are to be three undersecretaries, with English, French and Spanish being the official languages.

Following Dr. Henderson's talk a motion was made to increase the dues for fellowship to \$12 for 1948, with the trustees to be given the priv-

ilege of setting the figure for following years, although \$12 is maximum until changed by the House of Delegates.

Report of the committee appointed to make recommendations for streamlining the work of the House of Delegates covered, first, administrative matters which have already been corrected to conform with the recommendations. Appointment of reference committees two months in advance, with publication of the names one month in advance of each meeting of the House, was approved. Changes in registration methods to speed up the process were approved, as was a recommendation that there be no address by the president-elect.

A resolution that the Reference Committee on Executive Session consider all matters referred to it in executive session, and that it report to the House only when it is in executive session, was discussed at length but finally adopted.

A recommendation about enforcing order in the House was approved, as was one that there should be no guest speakers invited to address the House; also approved were two recommendations about resolutions presented to the House. Changes in procedure were also approved in the hope that the work of the House may proceed faster in the future, thus allowing the delegates time to attend part of the scientific sessions.

The report of the committee on nursing problems considered both immediate relief and future training courses. It recommended aid in the recruitment of student nurses; pensions and security for nurses through an effort to have them included in social security and also tying their services into prepayment plans and old line commercial insurance programs; and establishment of a grade of nurses below that of the registered nurse of today. This would be for a bedside nurse, and the girl who wishes further training could go on to be a registered nurse. There was general agreement that these things could be accomplished, and it was recommended that there be a continuing committee of fifteen members, five from the American Hospital Association, five from the American Medical Association, and five from the American Nursing Association.

Dr. Crockett distributed handbooks on rural medical services as the report for his committee.

The Council on Medical Service reported that sixteen regional conferences had been held in the past four years, and that the news letter is now going to 3,500 members, and will be continued. Special bulletins will be mailed when necessary. The goal for 1948 will be community leadership in health matters.

(Continued on page 69)

NEWS NOTES

from the
Committee on Medical Service and Public Relations

Philosophy of a Medical Service Plan

F. L. Feierabend, M.D., Kansas City

PART I

The purpose of this paper is briefly to outline the fundamentals which should be the motivating factors in the development of a medical service plan.

First, we must start with the premise that a problem exists. A few short years ago many doctors refused to admit the existence of a social problem in medical care. Today, however, most physicians recognize and admit that the distribution of medical care is faulty. Even so, too many doctors are individualists motivated by materialism and refuse to give complete cooperation to well managed medical service plans. These doctors may give lip service publicly, but their private activities are sabotaging the plans. Under the old system, many persons were unable to provide for themselves and dependents good medical, surgical and hospital care.

Assuming then that we have this social problem, we must recognize the moral implication always associated with any social problem. The responsibility for the solution of this social and moral problem must be accepted by the medical profession, and the acceptance must be made by physicians at the local level. Failure on our part to provide the solution is fraught with grave implications, the nature of which has been suggested by two ugly words—regimentation and socialization. For years medical periodicals have presented a negative approach to the problem. Volumes have been written about the “social planners” invading our domain and usurping our rights, but nothing about our duties and obligations. Such an approach is the result of confused thinking, because no social and moral problem was ever solved negatively.

The effective solution of this problem must be positive. We must provide a plan whereby the best in medical, surgical and hospital care is made available to all the people at a reasonable cost. Practically, the best plan which has been

evolved is one that operates on a budgeted prepayment, nonprofit basis. The technical operation is now well established and is actuarially sound.

Many doctors are of the opinion that the American Medical Association should provide the solution of this problem. Such an attitude on the part of the local physician is in keeping with the thinking now exhibited by many citizens. Regardless of the problem, many people say, “What is Congress doing about it? Why don’t they pass a law?” Such thinking is false because in the operation of a democracy it is the responsibility of the people that all activity possible must be done at the grass root level. In recognition of this principle, the American Medical Association has developed A. M. C. P. This organization will be helpful in promoting, guiding, advising, and consulting, but never acting in the capacity of actually developing and operating a plan.

To support this thinking I will quote from *Quadragesimo Anno*, the great encyclical on the reconstruction of the social order, written in 1931: “It is indeed true, as history clearly proves, that owing to the change in social conditions, much that was formerly done by small bodies can nowadays be accomplished only by a large corporation. None the less, just as it is wrong to withdraw from the individual and to commit to the community at large what private enterprise and industry can accomplish, so too, it is an injustice, a grave evil and a disturbance of right order for a large and higher organization to arrogate to itself functions that can be performed efficiently by smaller and lower bodies. This is a fundamental principle of social philosophy, unshaken and unchangeable, and it retains its full truth today. Of its very nature the true aim of all social activity should be to help individual members of the social body, but never to destroy or absorb them.” This is the principle of subsidiar-

ity which is operative in a democracy. Hence right order dictates that this is a problem which must be solved at the local level.

Earlier in this paper we used the term "rights." To avoid misunderstanding, the term "rights" requires definition. In the United States we have enjoyed rights and privileges for such a long period of time that they are accepted without thought of their source or the obligations incident to the exercise of them. In our form of government we recognize the true source of all rights and this source is clearly stated in the Declaration of Independence: "We believe all men to be created equal and endowed by their Creator with certain inalienable rights." Here it is clearly stated in two parts of one sentence that all rights stem from God. You will note that it states all men are endowed with certain inalienable rights.

This philosophy is in direct contrast with the philosophy of the materialist, Karl Marx, whose Manifesto is the Bible of communism. Marx teaches that there is no God and that all rights stem from the state. Great care must be exercised if this insidious social disease known as communism does not become epidemic in the United States. Eternal vigilance must be exercised. Men and particularly doctors must recognize their responsibilities if Christian democracy is to survive.

In support of the teachings of our founding fathers, which are clearly stated in the Declaration of Independence, and to prove that their primary motive was sound moral philosophy, let me quote from the Declaration of Independence written in 1776 and from the writings of Cardinal Bellarmine, written in 1576:

Declaration of Independence

"All men are created equal; they are endowed by their Creator with certain unalienable rights."

"To secure these rights governments are instituted among men."

"Governments are instituted among men, deriving their just powers from the consent of the governed."

Cardinal Bellarmine

"All men are equal, not in wisdom or in grace, but in the essence and nature of mankind."

"Political right is from God and necessarily inherent in the nature of man."

"It is impossible for men to live together without someone to care for the common good. Men must be governed by someone lest they be willing to perish."

"It depends upon the consent of the multitude to constitute over itself a king, consul or other

magistrate. This power is indeed from God, but vested in a particular ruler by the council and election of men."

Locke, an Anglo-Saxon, is given credit for being the first to call attention to the idea of "consent" in government. Locke, however, received his idea from Suarez, a Spaniard, writing in 1600, and Bellarmine, an Italian, writing in 1576.

If, then, all rights have divine origin, it must follow that they are governed by moral law. More specifically, these rights include the right to life, bodily integrity, the necessities of existence, the essentials consonant with attaining man's ultimate destiny, the right of association and the right to possess and use property. Observation of the operation of moral law demonstrates that any moral law violation invokes a penalty that cannot be avoided. Exercise of these rights must be done with great care, and abuse of them must be avoided unless we are prepared to pay the price of our social sinfulness.

(To be continued)

INTERIM SESSION OF THE HOUSE OF DELEGATES

(Continued from page 66)

Many resolutions were introduced, dealing with the supply and technic of internships, rotating internships, date of the interim meeting, hospital practice of medicine, establishment of new sections in the American Medical Association, propaganda issued to the armed forces; Red Cross procurement of blood, expansion of chest x-ray program, and medical examinations of immigrants to prevent importation of disease. All were carefully considered and the final recommendations were in accord with established principles and policies and were approved in most instances unanimously.

Appointment of a new public relations counsel, the Theodore R. Sills Company of New York City, was announced and the firm's representative who will headquarter in Chicago was introduced.

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Wednesdays at 2:45 p.m.

WSUI—Thursdays at 11:45 a.m.

- | | |
|------------|---|
| Feb. 4-5 | Fracture Series—Fractured Hip
Frank G. Ober, M.D., Burlington |
| Feb. 11-12 | Fracture Series—Hand Injuries
Lee R. Martin, M.D., Council Bluffs |
| Feb. 18-19 | Fracture Series—Fractures of the Wrist
Edward B. Hoeven, M.D., Ottumwa |
| Feb. 25-26 | Easter Seals for Crippled Children
Mrs. Dorothy Phillips, Des Moines |

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS FRED MOORE, 634 40th St., Des Moines 12

President-elect—MRS. A. G. FELTER, Van Meter

Secretary—MRS CHARLES A. NICOLL, Panora

Treasurer—MRS. M. A. ROYAL, 1138 Thirty-seventh Street, Des Moines 11

PROGRAM SUGGESTIONS

The program committee feels that county Auxiliary meetings should be educational as well as social. Each member should be informed as to the aims and attitudes of the medical profession since the Auxiliary is a liaison between the physician and the public. With this thought in mind, we make the following program suggestions:

1. "Voluntary Prepayment Medical Care" is still of vital interest. A program on this subject should include a history of compulsory health insurance, federal health bills, and information on Iowa's medical service plan. A panel discussion, "What Every Doctor's Wife Should Know," has been prepared for your use.

2. "How the American Medical Association Functions" is a program explaining available services of the A.M.A. and the relationship of the Auxiliary to the parent organization. Material will be found in bulletins of the A.M.A., and additional material may be secured from the Program Committee.

3. "Know Your Community and Its Needs in Health Education" is a program which can contribute much to community life and save duplication of work done in other organizations. Health education is one of the major objectives of the A.M.A. and should be of special concern to the Auxiliary. Suggestions on how to make a health survey may also be secured through the Program Committee.

4. The need for nurse recruitment is one of the most critical problems facing the medical profession and the American people. Mrs. W. R. Hornaday, chairman of the Student Nurse Recruitment Committee, will be glad to provide material for this program.

5. Iowa's program for the handicapped will acquaint Auxiliary members with agencies in the state which work with the handicapped. Mrs. M. H. Brinker, State Chairman for the Auxiliary, will be happy to suggest source material or assist in providing speakers.

The Program Committee recommends that each Auxiliary keep in step in 1948 by promoting interesting programs, intelligent public relations and wise plans for medical care. These objectives point to one goal—health. Program packets or resource material may be obtained by writing Mrs. Roger M. Minkel, Chairman, 422 N. 14th St., Ft. Dodge, Iowa.

The committee members are: Mrs. Walter Anneberg, Carroll; Mrs. H. W. Morgan, Mason City; Mrs.

Donald Conzett, Dubuque; Mrs. H. I. McPherrin, Des Moines; Mrs. A. G. Felter, Van Meter; Mrs. K. M. Chapler, Dexter.

WORK FOR THE HANDICAPPED

"Iowa Health Agencies," published by the Agricultural Extension Service, Iowa State College, and the Iowa State Department of Health, is a concise pamphlet released in August, 1947, which gives specific information very briefly as to all Iowa health agencies. It is a handbook which all doctors' wives should have in order to be well informed. We shall quote from "Iowa Health Agencies" from time to time as space permits. The following section has to do with the Division of Special Education in the Department of Public Instruction:

"Services: Teachers, nurses and other interested persons knowing of physically handicapped children not receiving instruction should report the case to the county superintendent of schools of the county of the child's residence, giving him all available data and pertinent information. The county superintendent will, in turn, notify the Division of Special Education. The Division will cooperate with the interested school district in setting up and approving a program of instruction for the handicapped child.

"If the child is home-bound because of a physical handicap, such as broken bones, cardiac, infantile paralysis, etc., this division can furnish school-to-home electrical equipment for the extension of regular classroom instruction or set up a visiting teacher program in which the teacher is properly certified to teach at the child's level. The district will pay the cost of service and this division will reimburse them according to the approved program.

"If a physically handicapped child is able to be transported to and from school, a transportation program will be set up. This is the best type of program because it does not isolate a child from its own age group and he receives full benefit of classroom instruction. This division also helps in securing glasses and hearing aids.

"Who is eligible: All Iowa children who are so physically handicapped that they are unable to attend the public schools of the state are eligible for this service.

"Cost: The services of the Division of Special Education are free to handicapped children.

"Where to apply: Applications for these services

are to be submitted through the county superintendent of schools of the county of the child's residence.

"Area: State-wide. For further information write W. A. Winterstein, Director of Special Education Division, State House, Des Moines, Iowa."

Mrs. M. H. Brinker, State Auxiliary Chairman,
Work for the Handicapped

NURSE RECRUITMENT COMMITTEE

Have you been doing your bit for Nurse Recruiting? Mrs. Harold Morgan of Mason City spoke to a group of junior college girls January 5. She also showed the film, "For You to Decide," which is available to you and your Auxiliary at any time. This committee also has material which will help you in making your talk. Do contact us and we will be glad to be of service.

The money is coming in to reimburse our treasury and make it possible to keep our two girls in training. Montgomery County was our most recent donor, but I am sure that many counties have voted to send their contributions soon.

Many requests have come to us for the requirements for entering Nurses' Training. Consequently we are giving them to you in this issue. They are:

1. Graduation from an accredited high school.
2. Rank in upper half of high school class.
3. Within four months of her eighteenth birthday.
4. Not over 35 years of age.
5. Course requirements for admission in Iowa.
 - English—3 units
 - Mathematics (algebra)—1 unit
 - History and social sciences—1½ units
 - Additional (from major group)—3½ units
 - Miscellaneous—not more than 6 units
 - Total—15 units
6. Satisfactory rating on the prenursing of the National League of Nursing Education if rank in high school is below upper half.
7. Physical and dental examinations.
8. Smallpox, thyroid, diphtheria inoculations.

Mrs. W. R. Hornaday, Chairman

IN APPRECIATION

Mrs. E. D. Miller, wife of Dr. Enos D. Miller of Wellman, passed away at their home November 16, after an illness of several months.

Mrs. Miller served as president of Washington County Auxiliary many years, was third vice president of the State Auxiliary in 1940, and a member of state committees at numerous times.

Her winning personality, keen insight, and intense sacrificial interest in people, as well as her splendid educational qualifications and broad experience as an active member in numerous outstanding civic organizations combined to make her a most valued asset to our Auxiliary in organization and conference.

Though for several years failing health curtailed her active participation, she still retained her membership and manifested a great interest in the Auxiliary and its program. She was an enthusiastic

supporter of our endeavors in public relations, assistance to crippled children and nurses' training.

We will greatly feel her loss and extend our sincere sympathy to Dr. Miller and family.

Ida M. Chittum

RECOMMENDED READING

In view of the fact that doctors' wives sometimes miss seeing the JOURNAL OF THE IOWA STATE MEDICAL SOCIETY and read only the news sheet of the Woman's Auxiliary, we should like to call attention to the January, 1948, issue. See page 22 for Dr. Fred Sternagle's excellent article, "The Price of Government Medicine," and page 28 for the editorial on "Nurses' Aid Training."

POLK COUNTY AUXILIARY

Polk County Medical Auxiliary met Jan. 9, 1948, at Younkers Tea Room for a luncheon and business meeting. Mrs. James E. Dyson, president-elect, took office and the following officers were elected: Mrs. Harold J. McCoy, president-elect; Mrs. Alonzo Jenks, vice president; Mrs. John Hess, Jr., secretary; Mrs. R. H. Riegelman, treasurer.

WORLD MEDICAL ASSOCIATION

From the county and state medical societies to the World Medical Association may seem a far cry, but strength of medical organization is necessary all along the line. Whether it be within the confines of the smallest medical society or on the international front, the ideals and purposes are the same—to make available the best possible medical service to all the people. The method of accomplishing these ideals and purposes is through community leadership on the part of the county and state medical societies on the one hand, and international leadership on the other.

A few facts about the World Medical Association are worth noting.

1. The organization was brought into being in Paris, Sept. 18, 1947. Headquarters will be on the North American continent. It is the outgrowth of the old Association Professionnelle Internationale des Medecins which the war left rather battered and defunct.

2. Forty-seven nations were represented at the organization meeting. The national medical associations of twenty-eight of these countries are among the founders of W. M. A.

3. Leaders of American Medicine—Ernest E. Irons, M.D., E. L. Henderson, M.D., R. L. Sensenich, M.D., and Louis H. Bauer, M.D.—are key men in the reorganization.

4. The World Medical Association should be distinguished from the World Health Organization which is part of the United Nations set-up. The World Medical Association is to the world medical picture what the A. M. A. is to American medicine, while the World Health Organization in that picture is comparable to the United States Public Health Service.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- DISEASES OF THE NOSE, THROAT AND EAR**—By William Lincoln Ballenger, M.D., F.A.C.S., Late Professor, School of Medicine, University of Illinois, Chicago; and HOWARD CHARLES BALLENGER, M.D., F.A.C.S., Associate Professor and Acting Chairman of the Department of Otolaryngology, Northwestern University School of Medicine, Chicago; Surgeon, Department of Otolaryngology, Evanston Hospital, Evanston, Ill.; assisted by JOHN JACOB BALLENGER, B.S., M.D., Research Fellow in Otolaryngology, Northwestern University School of Medicine, Chicago. Ninth edition. Lea & Febiger, Philadelphia, 1947. Price, \$12.50.
- DIABETES MELLITUS IN GENERAL PRACTICE**—By Arthur R. Colwell, M.D., Associate Professor of Medicine and Director of Medical Specialty Training, Northwestern University Medical School; Attending Physician, Evanston Hospital, Evanston, Ill.; Consulting Physician, Wesley Memorial Hospital, Chicago. The Year Book Publishers, Inc., Chicago, 1947. Price, \$5.25.
- THE FOOT AND ANKLE: Their Injuries, Diseases, Deformities and Disabilities**—By Philip Lewin, M.D., F.A.C.S., Associate Professor of Bone and Joint Surgery, and Acting Head of Department, Northwestern University Medical School; Professor of Orthopedic Surgery, Postgraduate Medical School of Cook County Hospital; Consulting Orthopedic Surgeon, Cook County Hospital; Consulting Orthopedic Surgeon, Municipal Contagious Disease Hospital, Chicago; Formerly Colonel, Medical Arts Corps, Army of United States; Senior Attending Orthopedic Surgeon, Michael Reese Hospital. Third edition. Lea & Febiger, Philadelphia, 1947. Price, \$11.
- GYNECOLOGICAL AND OBSTETRICAL UROLOGY**—By Huston S. Everett, M.D., Associate Professor of Gynecology, the Johns Hopkins University, and Associate in Gynecology, the University of Maryland Gynecologist and Gynecologist in Charge of the Cystoscopic Clinic, the Johns Hopkins Hospital. Visiting Gynecologist, the Church Home and Hospital, the Hospital for the Women of Maryland, and the Union Memorial Hospital. Second edition. The Williams and Wilkins Company, Baltimore, 1947. Price, \$6.
- LABORATORY MANUAL OF MICROBIOLOGY FOR NURSES**—By Elizabeth S. Gill, B.S., R.N., Instructor in Nursing, Department of Nursing, College of Physicians and Surgeons, Columbia University, New York; and JAMES T. CULBERTSON, Ph.D., Professor of Bacteriology and Parasitology, University of Arkansas School of Medicine, Little Rock, Ark.; formerly Assistant Professor of Bacteriology, College of Physicians and Surgeons, Columbia University, New York. G. P. Putnam's Sons, New York, 1947. Price, \$1.50.
- A PRIMER OF CARDIOLOGY**—By George E. Burch, M.D., F.A.C.P., Associate Professor of Medicine, Tulane University School of Medicine; Senior Visiting Physician, Charity Hospital; Consultant in Cardiovascular Diseases, Ochsner Clinic; Visiting Physician, Touro Infirmary, New Orleans; and PAUL REASER, M.D., Instructor in Medicine, Tulane University School of Medicine; Assistant Visiting Physician, Charity Hospital, New Orleans. Lea & Febiger, Philadelphia, 1947. Price, \$4.50.
- SURGICAL DISORDERS OF THE CHEST: Diagnosis and Treatment**—By J. K. Donaldson, B.S., M.D., F.A.C.S., (Lt. Col., A.U.S.) Diplomat American Board of Surgery; Associate Professor of Surgery and in Charge of Thoracic Surgery, University of Arkansas School of Medicine, etc., Surgical Staff, St. Vincent's Infirmary and Visiting Staff, Baptist Hospital, Little Rock, Arkansas. Formerly Thoracic Surgeon to Arkansas State Hospital for Nervous Diseases; Associate Surgeon, Robert B. Green Hospital, Visiting Surgeon to Santa Rosa, Nix, and Medical Arts Hospitals, San Antonio, Texas. Second edition. Lea & Febiger, Philadelphia, 1947. Price, \$8.50.
- SYNOPSIS OF OBSTETRICS AND GYNECOLOGY**—By Aleck W. Bourne, M.A., M.B., B.Ch. (Camb.), F.R.C.S. (Eng.), F.R.C.O.G., Consulting Obstetric Surgeon, Queen Charlotte's Hospital, London; Obstetric Surgeon, St. Mary's Hospital, London; Consulting Surgeon, Samaritan Hospital for Women; Examiner in University of Cambridge; formerly Examiner to Central Midwives Board, and Conjoint Board of England. Ninth edition. The Williams and Wilkins Company, Baltimore, 1945. Price, \$5.
- A TEXTBOOK OF CLINICAL NEUROLOGY** with an Introduction to the History of Neurology—By Israel S. Wechsler, M.D., Clinical Professor of Neurology, Columbia University, New York; Neurologist, the Mount Sinai Hospital; Consulting Neurologist, Montefiore Hospital and Rockland State Hospital, New York. Sixth edition. W. B. Saunders Co., Philadelphia, 1947. Price, \$8.50.
- A TEXTBOOK ON PATHOLOGY OF LABOR, THE PUERPERIUM, AND THE NEWBORN**—By Charles O. McCormick, A.B., M.D., F.A.C.S., Clinical Professor of Obstetrics, Indiana University School of Medicine; Consulting Obstetrician to William H. Coleman Hospital for Women, Indianapolis City Hospital, and Sunny Side Sanitarium. Second edition. The C. V. Mosby Company, St. Louis, 1947. Price, \$8.50.
- UNIPOLAR LEAD ELECTROCARDIOGRAPHY: Including Standard Leads, Unipolar Extremity Leads and Multiple Unipolar Precordial Leads**—By Emanuel Goldberger, B.S., M.D., Adjunct Physician, Montefiore Hospital, New York; Cardiographer and Associate Physician, Lincoln Hospital, New York; Diplomate of the American Board of Internal Medicine; Clinical Lecturer in Medicine, Columbia University, Faculty of Medicine. Lea & Febiger, Philadelphia, 1947. Price, \$4.
- 400 YEARS OF A DOCTOR'S LIFE**—Collected and arranged by George Rosen, M.D., and Beate Caspari-Rosen, M.D. Henry Schuman, New York, 1947. Price, \$5.
- 1947 YEAR BOOK OF GENERAL SURGERY**—Edited by Everts A. Graham, A.B., M.D., Professor of Surgery, Washington University School of Medicine; Surgeon-in-Chief of the Barnes Hospital and of the Children's Hospital, St. Louis. The Year Book Publishers, Inc., Chicago, 1947. Price, \$3.75.

BOOK REVIEWS

GIFFORD'S TEXTBOOK OF OPHTHALMOLOGY

By Francis H. Adler, M.D., Professor of Ophthalmology, University of Pennsylvania Medical School. Fourth edition. W. B. Saunders Co., Philadelphia, 1947. Price, \$6.

Dr. Sanford Gifford's "Textbook of Ophthalmology" has long been one of the standard works for the medical student, the student of ophthalmology, and the general physician; Dr. Francis H. Adler's present revision of the work has been done to carry out the original purpose of the book. Ophthalmology is a valuable subject for every physician in any field, and this book presents only that part of the subject which every physician will find of value. Emphasis has been laid on the relationship of ophthalmology to general conditions of the body. Of special interest is a ten page section on the exophthalmos of Grave's

disease which every internist will find of inestimable value. Over three hundred pictures amplify the well written text.

A. H. D.

MANUAL OF PHYSICAL DIAGNOSIS With Special Consideration of the Heart and Lungs

By Ellis B. Freilich, M.D., F.A.C.P., Professor of Medicine, University of Illinois College of Medicine; Professor of Medicine, Cook County Graduate School of Medicine; Attending Physician and Chief of Tuberculosis Staff, Cook County Hospital; Consultant to the Chicago Municipal Tuberculosis Sanitarium and Franklin Boulevard Community Hospital; Attending Physician, Mount Sinai Hospital; Attending Physician, University

Hospital, Chicago; GEORGE C. COE, M.D., Associate of Medicine, University of Illinois College of Medicine; Attending Physician in Tuberculosis, Cook County Hospital; Associate, Mount Sinai Hospital; Attending Physician, Franklin Boulevard Community Hospital, Chicago. Revised in collaboration with JOSEPH K. FREILICH, M.D., Adjunct, Mount Sinai Hospital; Clinic Physician, Michael Reese Hospital; Attending Physician, Franklin Boulevard Community Hospital, Chicago. Third edition. The Year Book Publishers, Inc., Chicago, 1947. Price, \$5.

That this volume has now reached its third revision in six years attests the need for a concise manual on physical diagnosis. Following a short chapter on history-taking, and another on "general observations," the emphasis is directed toward the examination of the heart and lungs.

An effort is made to explain the mechanisms underlying the commonly elicited physical signs in each of these spheres. This is only moderately successful, partly because of awkward phrasing, but equally because of a tendency to be too inclusive. Limitations of space undoubtedly account for the impression of superficiality apparent in some of the discussions. Summarizing chapters tabulate the signs associated with the more common diseases of the respiratory system and in the frequently encountered cardiac disorders.

It is unfortunate that no mention is made of the grading of cardiac murmurs, although this effort toward quantitative precision has gained prominence in the past few years. A lack of clarity of detail as well as the reversal of black and white values detracts from the effectiveness of the reproductions of roentgenograms used for illustration. Localization of pulmonary and bronchial lesions would be aided by a labeled diagram of the major bronchi.

A new chapter on the examination of the nervous system concludes the volume.

L. J. G.

PHARMACEUTICAL LABORATORY MANUAL

By R. A. Kuever, Ph.D., Ph.C., Dean of the College of Pharmacy, Professor of Pharmacy, Director of the Pharmaceutical Laboratories, State University of Iowa. J. B. Lippincott Co., Philadelphia, 1947. Price, \$2.75.

I believe this book is the answer to a crying need, which exists in most colleges of pharmacy, for a replacement of the loose leaf, mimeographed notebooks, which are all too brief and are a mess by the end of a school year.

I believe the author has achieved his purpose as set out in the preface—good range of material, experiments clear, supplemented by good suggestions, information and related subjects, plus questions which will arouse interest and research in pharmacy laboratory work by learning the "whys and wherefores" which concern these experiments.

Under the titles of General Suggestions, Weighing, Measuring, Filtration and Wrapping the author states many good points which bear rereading many times by pharmacists as well as students. The manual, when completed accurately by the student, will be invaluable to him in school, for the board and in practice.

In my opinion, the manual, like all in common usage, contains many experiments which are outmoded and fails to keep up with progress in pharmacy as practiced. As a suggestion for replacements, experiments in dermatologic preparations, smooth ointments, water soluble bases, emulsions and lotions are much in demand.

I predict this book will be well received by professors and students.

H. M. F.

PICTORIAL HANDBOOK OF FRACTURE TREATMENT

By Edward L. Compere, M.D., F.A.C.S., Associate Professor of Surgery, Northwestern University Medical School; Chairman, Departments of Orthopedic Surgery, Wesley Memorial and Children's Memorial Hospitals, Chicago; Consultant in Orthopaedics, U. S. Naval Hospital, Great Lakes, Ill.; SAM W. BANKS, M.D., F.A.C.S., Associate in Surgery, Northwestern University Medical School; Attending Orthopaedic Surgeon, Chicago Memorial and Hines Veterans' Hospitals; Consulting Orthopaedic Surgeon, Provident Hospital, Chicago; revised with the assistance of CLINTON L. COMPERE, M.D., F.A.C.S., Associate in Surgery, Northwestern University Medical School; Attending Orthopaedic Surgeon, Wesley Memorial Hospital, Chicago. Illustrated by HAROLD LAUFMAN, M.D., F.A.C.S., Department of Surgery, Northwestern University Medical School. The Year Book Publishers, Inc., Chicago, 1947. Second edition.

The authors of this book are well known authorities on the treatment of fractures. This well illustrated text should prove most helpful, not only to medical students but to the general practitioner, as an outline of proper methods of fracture treatment.

E. M. G.

NOTICE

Physicians are invited to indicate their desire to receive books for review through the JOURNAL, specifying the field of interest or particular book wanted. Upon request the JOURNAL staff will write for any new medical book which has not already been received. Address your requests to the JOURNAL, 505 Bankers Trust Building, Des Moines 9, Iowa.

SOCIETY PROCEEDINGS

MEETINGS

Adair County

The Adair County Medical Society met at Hotel Greenfield, Greenfield, on December 19 for the annual election of officers. Preceding the business session dinner was served for members and their wives. Dr. Ralph DeCicco was elected president; Dr. A. S. Bowers, secretary-treasurer; and Dr. L. H. Ahrens, delegate. Arrangements for scientific programs were discussed.

Buchanan County

At the Buchanan County Medical Society's annual meeting Dr. James Barrett was named president; Dr. R. W. Robb, vice president; J. F. Loeck, secretary-treasurer; and Dr. Barrett, censor. The dinner and meeting were held at the Silver Slipper on December 23.

Buena Vista County

Dr. Russell P. Noble of Alta was elected president of the Buena Vista County Medical Society at its regular meeting December 16 in Hotel Bradford, Storm Lake. Other officers are Dr. Ballard Hayworth, vice president, and Dr. R. E. Mailliard, Storm Lake, secretary-treasurer.

Howard County

Dr. P. A. Nierling of Cresco was elected president of the Howard County Medical Society at the annual meeting held in the office of Dr. D. O. Maland of Cresco. Dr. C. S. Stoakes is the new vice president, and Dr. Abner Buresh will serve as secretary-treasurer.

Johnson County

The Johnson County Medical Society and the Johnson County Dental Society held a joint meeting January 7 at the Jefferson Hotel, Iowa City. Following dinner and the business meeting, L. Bodine Higley, D.D.S., Professor and Head of the Department of Orthodontics, College of Dentistry, addressed the group on "Orthodontics."

Marion County

Members of the Marion County Medical Society met for dinner at the Country Club December 18. Election of officers was the chief order of business with Dr. F. M. Roberts chosen president; Dr. H. L. Bridgeman, vice president; Dr. D. S. Burbank, Pleasantville, secretary; and Dr. E. C. McClure, delegate.

Monroe County

Dr. H. J. Richter of Albia was elected president of the Monroe County Medical Society at a recent meeting of the organization. Other officers are Dr. C. N.

Hyatt, vice president; Dr. T. A. Moran, secretary and delegate; and Dr. C. C. Fowler, alternate delegate.

Polk County

The Polk County Medical Society held its annual meeting January 21 at the Des Moines Club, Des Moines. Following a 7 o'clock dinner and election of officers, Dr. Louis A. Buie of Rochester, president of the Minnesota State Medical Society, addressed the group on "Good Manners." Fifty guests were present.

Sac County

Newly elected officers of the Sac County Medical Society are Dr. J. W. Gauger, president; Dr. C. E. Lierman, secretary; Dr. L. B. Amick, delegate; and Dr. J. R. Dewey, alternate delegate.

Scott County

The Scott County Medical Society met January 6 at 6 p. m. at the Lend-A-Hand Club, Davenport. Following dinner Dr. Sidney Smith of the Children's Memorial Hospital, Chicago, addressed the group on "Cardiac Surgery in Children." A movie entitled "Cancer of the Female Breast" was also shown.

Van Buren County

The Van Buren County Medical Society held its annual meeting January 2 in the office of Dr. W. H. Mott in Farmington. After a routine business meeting the following officers were elected: Dr. M. Olson, president; Dr. W. H. Mott, vice president; and Dr. L. A. Coffin, secretary.

Wapello County

The Wapello County Medical Society will meet February 3 at 6:30 p. m. at St. Joseph Hospital, Ottumwa. Dr. H. M. Parker of Kansas City, Mo., will address the group on "Water Metabolism."

Washington County

The Washington County Medical Society held its annual dinner and business meeting December 18. Dr. M. L. McCreedy was elected president; Dr. J. R. Miller, vice president; Dr. E. D. Miller, delegate; Dr. W. S. Kyle, secretary-treasurer.

Webster County

Dr. Charles J. Baker was re-elected president of the Webster County Medical Society at the group's annual meeting held December 18 at the Waukonsa Hotel, Fort Dodge. Also re-elected were Dr. Walter R. Fieseler, vice president; Dr. Marvin W. Burleson, secretary-treasurer; Dr. A. A. Schultz, executive committee; and Dr. E. M. Kersten, delegate.

Woodbury County

Dr. Edward M. Honke of Sioux City was chosen president-elect of the Woodbury County Medical Society at the annual election meeting of the group held December 16 at the Martin Hotel, Sioux City. Dr. R. T. Rohwer took office as president; Dr. P. L. Bettler, vice president; and Dr. Edward Sibley, secretary-treasurer. Dr. R. J. Harrington and Dr. Charles McHugh were elected to the board of censors, and Dr. Charles Maxwell was chosen as delegate.

PERSONALS

Dr. Carl W. Ahl, who has been associated with Dr. P. A. Nierling and Dr. F. E. Giles in the practice of medicine in Cresco for the past year, has opened offices of his own in the space formerly occupied by the late Dr. J. W. Jinderlee.

Dr. G. W. Bennett of Oskaloosa left January 9 for Wooster, Ohio, where he will take specialized training in the Beeson Clinic.

Dr. James Berbos, who has been located at Broadlawns Hospital, Des Moines, is assisting Dr. George J. Severson of Slater during the winter and spring months.

Dr. W. R. Bliss recently joined the staff of McFarland Clinic, Ames. A graduate of the State University of Iowa College of Medicine in 1943, Dr. Bliss took his internship and residency at Louisville, Ky., following which he served two years in the army. For the past six months he has been at the Veterans Hospital, Des Moines.

Dr. Walter Block, who recently completed his pediatric training in the Children's Hospital at the University of Iowa and at the University of Cincinnati Children's Hospital, entered practice with Dr. Morgan J. Foster, Cedar Rapids, January 5.

Dr. Richard A. Cramer opened offices for the practice of medicine and surgery in Cedar Falls January 26. A graduate of Northwestern University Medical School with the class of 1944, Dr. Cramer served his internship at Denver General Hospital, Denver, Colo., and has been associated with the Paris hospital and clinic, Paris, Ill., the past two years.

Dr. W. Gordon Doss, recently released from the army where he served as a doctor since 1942, has entered medical practice in Mount Ayr. He is located in offices formerly occupied by Dr. F. C. Smith, recently retired.

Dr. Roland E. Erikson has opened offices in Daventryport. Dr. Erikson, who will engage in general practice, is a graduate of the University of Illinois College of Medicine and served his internship at Los Angeles County General Hospital. He served two years in the army.

Dr. Charles Maplethorpe, Jr., has become associated with his father, Dr. C. W. Maplethorpe in the practice of medicine in Toledo. He was graduated from the State University of Iowa College of Medicine in 1943, and following his internship served two years in the armed forces. For the past year he has had a residency at St. Elizabeth's Hospital, Lafayette, Ind.

Dr. A. L. Nielson of Harlan recently announced plans to leave February 1 for Long Beach, Calif., where he will be associated with Dr. H. A. MacMillen. Dr. Nielson has practiced in that community twenty-eight years. Dr. J. H. Spearing of Kansas, who has been a staff doctor at Jennie Edmundson Hospital, Council Bluffs, since his discharge from the army, will take over Dr. Nielson's practice.

Dr. Fred Sloan, recently separated from the Army Medical Corps, has opened offices for practice in Waterloo. Dr. Sloan, who was graduated from the State University of Iowa College of Medicine with the class of 1937, is specializing in internal medicine and allergy.

DEATH NOTICES

Bockoven, William Alonzo, aged 53, of Cresco, died December 30 at his home following a heart attack. A graduate of the State University of Iowa College of Medicine with the class of 1921, Dr. Bockoven had practiced in Cresco twenty-two years. He was a member of the Howard County and Iowa State Medical Societies.

Craig, James Alexander, of Keosauqua, aged 76, died at his home January 11 following a long illness. He was graduated from the Jefferson Medical College of Philadelphia in 1895 and had practiced in Keosauqua fifty-two years. He was a life member of the Iowa State and Van Buren County Medical Societies.

Farnum, Alford Jay, aged 69, of Traer died December 14 in the Christie Convalescent Home. A graduate of the University of Illinois College of Medicine, Chicago, in 1902, he had practiced in Traer since 1915. He was a member of the Tama County and Iowa State Medical Societies.

Muench, Virgil Orin, aged 63, of Nichols died in his office January 3 of a heart ailment. Dr. Muench had practiced in Nichols since his graduation from the State University of Iowa College of Medicine in 1910. He was a member of the Muscatine County and Iowa State Medical Societies.

Thompson, William L., aged 85, of Bayard died December 16 in a Los Angeles, Calif., hospital following several months of failing health. He was graduated from Rush Medical College in 1894 and had practiced in Bayard since that time. He was a life member of the Dallas-Guthrie and Iowa State Medical Societies.

COUNTY MEDICAL SOCIETY OFFICERS*

COUNTY	PRESIDENT	SECRETARY	DEPUTY COUNCILOR
Adair.....	Ralph DeCicco, Greenfield.....	A. S. Bowers, Orient.....	A. S. Bowers, Orient
Adams.....	J. C. Nolan, Corning.....	C. L. Bain, Corning.....	A. W. Brunk, Prescott
Allamakee.....	J. W. Myers, Postville.....	J. W. Thornton, Lansing.....	J. W. Thornton, Lansing
Appanoose.....	R. R. Edwards, Centerville.....	E. F. Ritter, Centerville.....	E. A. Larsen, Centerville
Audubon.....	Peder Soe, Kimballton.....	H. K. Merselis, Audubon.....	L. E. Jensen, Audubon
Benton.....	N. B. Williams, Belle Plaine.....	L. W. Koontz, Vinton.....	N. B. Williams, Belle Plaine
Black Hawk.....	H. O. Gardner, Waterloo.....	C. A. Waterbury, Jr., Waterloo.....	A. J. Joynt, Waterloo
Boone.....	J. C. Herman, Boone.....	H. C. Scharnweber, Boone.....	J. O. Ganoe, Ogden
Bremer.....	R. E. Shaw, Waverly.....	O. S. Blum, Waverly.....	F. R. Sparks, Waverly
Buchanan.....	J. W. Barrett, Jr., Independence.....	J. F. Loeck, Independence.....	J. W. Barrett, Jr., Independence
Buena Vista.....	P. W. Brecher, Storm Lake.....	T. R. Campbell, Sioux Rapids.....	H. E. Farnsworth, Storm Lake
Butler.....	B. V. Anderson, Greene.....	F. F. McKean, Allison.....	Bruce Ensley, Shell Rock
Calhoun.....	D. C. Carver, Rockwell City.....	R. G. Klockseim, Rockwell City.....	W. W. Weber, Pomeroy
Carroll.....	A. F. Smith, Manning.....	R. J. Ferlic, Carroll.....	W. L. McConkie, Carroll
Cass.....	R. M. Needles, Atlantic.....	W. F. Giegerich, Atlantic.....	
Cedar.....	Fred Montz, Lowden.....	J. E. Smith, Clarence.....	P. M. Hoffman, Tipton
Cerro Gordo.....	Draper Long, Mason City.....	J. W. Lannon, Mason City.....	G. J. Sartor, Mason City
Cherokee.....	J. H. Wise, Cherokee.....	D. C. Koser, Cherokee.....	C. E. Johnson, Cherokee
Chickasaw.....	E. C. O'Connor, New Hampton.....	P. C. Richmond, New Hampton.....	E. Gardner, New Hampton
Clarke.....	F. S. Bowen, Woodburn.....	C. R. Harken, Osceola.....	H. E. Stroy, Osceola
Clay.....	E. A. Rust, Webb.....	D. H. King, Spencer.....	C. C. Collesler, Spencer
Clayton.....	P. R. V. Hommel, Elkader.....	T. W. Lichter, Edgewood.....	P. R. V. Hommel, Elkader
Clinton.....	R. J. Nelson, Clinton.....	M. B. Emmons, Clinton.....	R. F. Luse, Clinton
Crawford.....	C. L. Sievers, Denison.....	C. Dudley Miller, Denison.....	C. L. Sievers, Denison
Dallas-Guthrie.....	J. F. Loebrock, Perry.....	C. A. Nicoll, Panora.....	E. J. Butterfield, Dallas Center
Davis.....	C. H. Cronk, Bloomfield.....	H. C. Young, Bloomfield.....	S. J. Brown, Panora
Decatur.....	E. E. Gamet, Lamoni.....	W. N. Doss, Leon.....	C. H. Cronk, Bloomfield
Delaware.....	Paul Stephen, Manchester.....	R. E. Clark, Manchester.....	F. A. Bowman, Leon
Des Moines.....	J. C. McKitterick, Burlington.....	R. H. Crawford, Burlington.....	F. G. Ober, Burlington
Dickinson.....	Donald Rodawig, Spirit Lake.....	Ruth Wolcott, Spirit Lake.....	T. L. Ward, Arnolds Park
Dubuque.....	D. C. Conzett, Dubuque.....	Theo Scharle, Dubuque.....	J. C. Painter, Dubuque
Emmet.....	J. P. Clark, Estherville.....	G. B. Johnston, Estherville.....	S. C. Kirkegaard, Estherville
Fayette.....	W. E. Walsh, Hawkeye.....	H. L. Schrier, Fayette.....	C. C. Hall, Maynard
Floyd.....	E. J. Goen, Charles City.....	E. V. Ayres, Charles City.....	R. A. Fox, Charles City
Franklin.....	W. R. Arthur, Hampton.....	W. W. Taylor, Sheffield.....	J. C. Powers, Hampton
Fremont.....	Ralph Lovelady, Sidney.....	A. E. Wanamaker, Hamburg.....	A. E. Wanamaker, Hamburg
Greene.....	J. I. Limburg, Jr., Jefferson.....	E. D. Thompson, Jefferson.....	L. C. Nelson, Jefferson
Grundy.....	H. L. Mol, Grundy Center.....	Varina Des Marias, Grundy Ctr.....	W. O. McDowell, Grundy Center
Hamilton.....	J. H. Romine, Webster City.....	M. B. Galloway, Webster City.....	M. B. Galloway, Webster City
Hancock-Winnebag.....	D. F. Shaw, Britt.....	I. E. Brown, Forest City.....	C. V. Hamilton, Garner
Hardin.....	I. J. Shurts, Eldora.....	F. N. Cole, Iowa Falls.....	G. F. Dolmage, Buffalo Center
Harrison.....	C. W. Byrnes, Dunlap.....	F. H. Hanson, Magnolia.....	F. N. Cole, Iowa Falls
Henry.....	J. S. Jackson, Mt. Pleasant.....	W. H. Megorden, Mt. Pleasant.....	J. S. Jackson, Mt. Pleasant
Howard.....	P. A. Nierling, Cresco.....	Abner Buresch, Lime Springs.....	W. A. Bockoven, Cresco
Humboldt.....	A. E. Jensen, Humboldt.....	C. A. Newman, Bode.....	I. T. Schultz, Humboldt
Ida.....	J. B. Dressler, Ida Grove.....	W. P. Crane, Holstein.....	E. S. Parker, Ida Grove
Iowa.....	F. C. Schadt, Williamsburg.....	I. J. Sinn, Williamsburg.....	I. J. Sinn, Williamsburg
Jackson.....	O. L. Frank, Maquoketa.....	F. J. Swift, Jr., Maquoketa.....	F. J. Swift, Maquoketa
Jasper.....	T. D. Wright, Newton.....	R. F. Frech, Newton.....	R. W. Wood, Newton
Jefferson.....	I. N. Crow, Fairfield.....	Robert A. Ryan, Fairfield.....	I. N. Crow, Fairfield
Johnson.....	R. H. Flecks, Iowa City.....	R. C. Hardin, Iowa City.....	G. C. Albright, Iowa City
Jones.....	J. D. Paul, Anamosa.....	C. R. Smith, Wyoming.....	T. M. Redmond, Monticello
Keokuk.....	J. L. Doyle, Sigourney.....	John Maxwell, What Cheer.....	D. L. Grothaus, Delta
Kossuth.....	C. H. Cretzmeier, Algona.....	M. G. Bourne, Algona.....	J. G. Clapsaddle, Burt
Lee.....	John Saar, Donnellson.....	B. D. Van Werden, Keokuk.....	R. L. Feightner, Fort Madison
Linn.....	E. G. Kieck, Cedar Rapids.....	James J. Redmond, Cedar Rapids.....	G. H. Ashline, Keokuk
Louisa.....	E. S. Groben, Columbus Junction.....	J. H. Chittum, Wapello.....	B. F. Wolverton, Cedar Rapids
Lucas.....	Dean Curtis, Chariton.....	R. E. Anderson, Chariton.....	J. H. Chittum, Wapello
Lyon.....	A. C. Wubben, Rock Rapids.....	S. H. Cook, Rock Rapids.....	S. L. Throckmorton, Chariton
Madison.....	G. J. Anderson, Winterset.....	P. F. Chestnut, Winterset.....	S. H. Cook, Rock Rapids
Mahaska.....	G. W. Bennett, Oskaloosa.....	Howard Bos, Oskaloosa.....	C. B. Hickenlooper, Winterset
Marion.....	H. L. Bridgeman, Knoxville.....	D. A. Mater, Knoxville.....	E. B. Wilcox, Oskaloosa
Marshall.....	R. C. Wells, Marshalltown.....	E. C. Knight, Marshalltown.....	H. L. Bridgeman, Knoxville
Mills.....	W. A. DeYoung, Glenwood.....	T. E. Shonka, Malvern.....	A. D. Woods, State Center
Mitchell.....	T. G. Walker, Riceville.....	William Owen, St. Ansgar.....	D. W. Harman, Glenwood
Monona.....	L. A. Gaukel, Onawa.....	P. L. Wolpert, Onawa.....	T. S. Walker, Riceville
Monroe.....	H. J. Richter, Albia.....	T. A. Moran, Melrose.....	C. W. Young, Onawa
Montgomery.....	H. C. Bastron, Red Oak.....	E. M. Sorensen, Red Oak.....	C. C. Fowler, Lovilia
Muscatine.....	K. E. Wilcox, Muscatine.....	L. C. Hallendorf, Muscatine.....	Oscar Alden, Red Oak
O'Brien.....	K. W. Myers, Sheldon.....	W. S. Balkema, Sheldon.....	C. P. Phillips, Muscatine
Osceola.....	E. S. Aelits, Sibley.....	Frank Rizzo, Sibley.....	W. R. Brock, Sheldon
Page.....	H. McK. Bunch, Shenandoah.....	J. F. Aldrich, Shenandoah.....	Frank Reinsch, Ashton
Palo Alto.....	J. W. Woodbridge, Emmetsburg.....	P. O. Nelson, Emmetsburg.....	W. H. Maloy, Shenandoah
Plymouth.....	R. J. Fisch, Le Mars.....	L. C. O'Toole, Le Mars.....	H. L. Brereton, Emmetsburg
Pocahontas.....	H. L. Pitluck, Laurens.....	C. L. Jones, Gilmore City.....	W. L. Downing, Le Mars
Polk.....	M. A. Royal, Des Moines.....	H. C. Bone, Des Moines.....	C. L. Jones, Gilmore City
Pottawattamie.....	G. J. Klok, Council Bluffs.....	S. A. Cohen, Council Bluffs.....	J. B. Synhorst, Des Moines
Poweshiek.....	Delano Wilcox, Malcom.....	C. E. Harris, Grinnell.....	G. N. Best, Council Bluffs
Ringgold.....	O. L. Fullerton, Redding.....	J. W. Hill, Mt. Ayr.....	C. E. Harris, Grinnell
Sac.....	J. W. Gauger, Early.....	C. E. Lierman, Lake View.....	E. J. Watson, Diagonal
Scott.....	H. J. Evans, Davenport.....	M. J. Brown, Davenport.....	J. R. Dewey, Schaller
Shelby.....	C. V. Bisgard, Harlan.....	L. W. Savage, Harlan.....	A. P. Donohoe, Davenport
Sioux.....	C. O. Oelrich, Sioux City.....	C. B. Murphy, Alton.....	A. L. Nielson, Harlan
Story.....	J. G. Fellows, Ames.....	W. B. Armstrong, Ames.....	Wm. Doornink, Orange City
Tama.....	H. S. Bezman, Traer.....	A. J. Havlik, Tama.....	Bush Houston, Nevada
Taylor.....	G. W. Rimel, Bedford.....	J. H. Gasson, Shenandoah.....	A. A. Pace, Toledo
Union.....	A. S. Beatty, Creston.....	C. E. Sampson, Creston.....	G. W. Rimel, Bedford
Van Buren.....	W. H. Mott, Farmington.....	L. A. Coffin, Farmington.....	C. C. Rambo, Creston
Wapello.....	T. L. Vineyard, Ottumwa.....	L. A. Taylor, Ottumwa.....	L. A. Coffin, Farmington
Warren.....	E. E. Shaw, Indianola.....	C. H. Mitchell, Indianola.....	C. A. Henry, Farson
Washington.....	M. L. McCreedy, Washington.....	W. S. Kyle, Washington.....	C. H. Mitchell, Indianola
Wayne.....	J. H. McCall, Allerton.....	C. F. Brubaker, Corydon.....	E. D. Miller, Wellman
Webster.....	C. J. Baker, Fort Dodge.....	M. W. Burleson, Fort Dodge.....	J. H. McCall, Allerton
Winnesiek.....	R. N. Svendsen, Decorah.....	H. H. Ennis, Decorah.....	H. E. Nelson, Dayton
Woodbury.....	R. J. Harrington, Sioux City.....	R. C. Mugan, Sioux City.....	L. C. Kuhn, Decorah
Worth.....	S. S. Westly, Manly.....	G. S. Westly, Manly.....	D. B. Blume, Sioux City
Wright.....	E. M. Smith, Eagle Grove.....	J. R. Christensen, Eagle Grove.....	S. S. Westly, Manly

*Changes in names of officers are made upon receipt of the county secretary's election report. Hence, for those counties for which no report has as yet been received, the 1947 officers' names are herein included.



HAROLD A. SPILMAN, M.D.
PRESIDENT
IOWA STATE MEDICAL SOCIETY
1947-1948

The JOURNAL *of the* Iowa State Medical Society

Vol. XXXVIII

Des Moines, Iowa, March, 1948

No. 3

IOWA STATE MEDICAL SOCIETY

Organized in 1850

Ninety-Seventh Annual Session

Des Moines, Iowa, April 18-21, 1948

Hotel Fort Des Moines

PROGRAM OF GENERAL SESSIONS

Main Ball Room

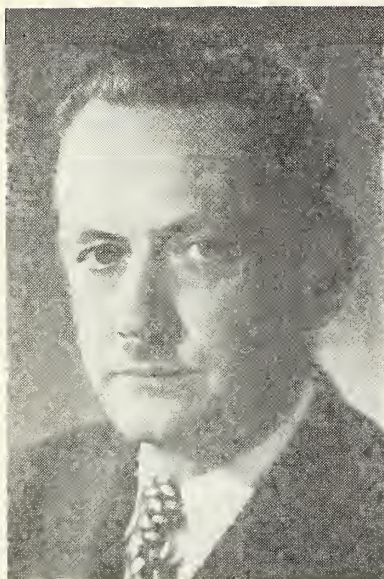
Monday, April 19

- 9:00 Greetings—
LESTER D. POWELL, M.D., President
Polk County Medical Society
Response—
BEN T. WHITAKER, First Vice
President, Iowa State Medical Society
- 9:15 Diagnosis of Congenital Heart Disease with
Particular Respect to Cardiac Catheteriza-
tion and Oximetry
HOWARD B. BURCHELL, M.D., Rochester
- 9:45 Fractures of the Neck of the Femur: An
Evaluation of End Results
JOHN H. MOE, M.D., Minneapolis
Assistant Clinical Professor of
Orthopedic Surgery, University of
Minnesota Medical School
- 10:15 Intermission to visit exhibits
- 10:30 Cerebral Palsy
WINTHROP M. PHELPS, M.D., Baltimore
Medical Director, Children's Rehabilitation
Institute, Inc., Cockeysville, Md.
- 11:00 Chronic Disorders of the Digestive System in
Infants and Children
CHARLES D. MAY, M.D., Minneapolis
Associate Professor of Pediatrics
University of Minnesota Medical School
- 11:30 Adjournment for lunch
- 4:15 What Can the General Practitioner Do for the
Nervous Patient?
WALTER C. ALVAREZ, M.D., Rochester,
Professor of Medicine, University of
Minnesota Graduate School of Medicine

Tuesday, April 20

- 9:00 Anatomy and Physiology of the Lesser Cir-
culation as a Basis for the Understanding of
the Diseases of the Lesser Circulation Which
Are of Considerable Interest to the Physician
and Surgeon
W. WALTER WASSON, M.D., Denver
Chairman of Section on Radiology,
American Medical Association
- 9:30 Ruptured Intervertebral Discs
JAMES S. SPEED, M.D., Memphis
Professor of Orthopedic Surgery, Univer-
sity of Tennessee College of Medicine
- 10:00 What Causes Gas?
WALTER C. ALVAREZ, M.D., Rochester
- 10:30 Intermission to visit exhibits
- 10:45 The Relationship Between Ocular Disorders
and Thyroid Dysfunction
ALSON E. BRALEY, M.D., New York
Assistant Professor of Ophthalmology,
The Eye Institute, Columbia Medical
Center
- 11:15 Diagnosis and Surgical Treatment of Patent
Ductus Arteriosus and Congenital Vascular
Ring
WILLIS J. POTTS, M.D., Chicago
Associate Professor of Surgery, North-
western University Medical School
- 11:45 Adjournment for lunch
- 4:15 The World Medical Association
ELMER L. HENDERSON, M.D., Louisville
Chairman, Board of Trustees, American
Medical Association

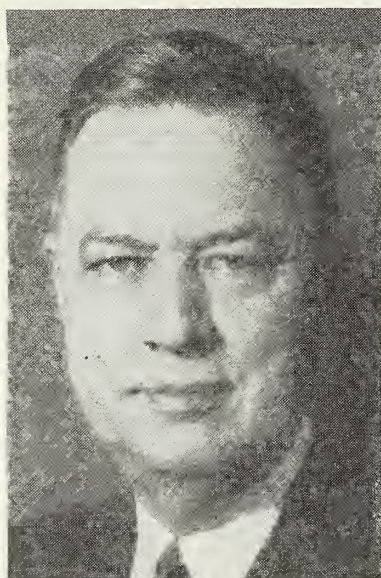
GUEST SPEAKERS



WILLIS J. POTTS, M.D.
Chicago



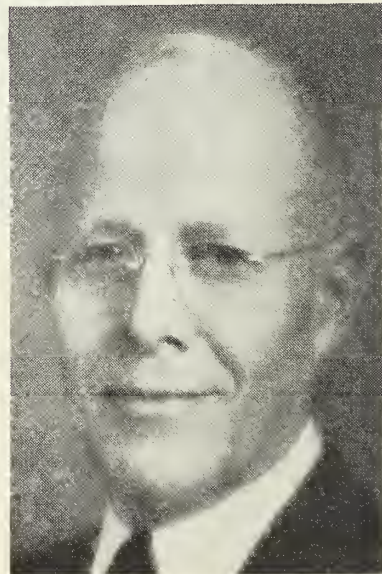
ROLAND S. CRON, M.D.
Milwaukee



ELMER L. HENDERSON, M.D.
Louisville



M. EDWARD DAVIS, M.D.
Chicago



WALTER C. ALVAREZ, M.D.
Rochester

PROGRAM OF GENERAL SESSIONS

Wednesday, April 21

- | | | | |
|-------|--|-------|---|
| 9:00 | Why I Chose General Practice
GEORGE W. WILKINSON, M.D., Bellevue | | Obstetrics and Gynecology, University
of Chicago School of Medicine |
| 9:20 | Forty Years in General Practice
CON R. HARKEN, M.D., Osceola | 10:30 | Treatment of Carcinoma of the Cervix
ROLAND S. CRON, M.D., Milwaukee
Clinical Professor of Obstetrics and
Gynecology, Marquette University
School of Medicine |
| 9:40 | Immunization Procedures Brought Up to
Date
JAMES E. DYSON, M.D., Des Moines | | |
| 10:00 | Modern Management of Third Stage and
Postpartum Hemorrhage
M. EDWARD DAVIS, M.D., Chicago
Joseph Bolivar DeLee Professor of | 11:00 | Installation of New President — Report of
House of Delegates |
| | | 11:30 | Adjournment Sine Die |

SECTION MEETINGS

Medical Section

Arthur D. Woods, M.D., State Center, Chairman

Monday Afternoon, April 19

Main Ball Room

- 2:00 Streptomycin in the Treatment of Tuberculosis
KARL H. PFUETZE, M.D., Cannon Falls
Instructor of Medicine, University of
Minnesota Medical School
Discussers:
J. CARL PAINTER, M.D., Dubuque
CHARLES W. GRAY, M.D., Oakdale
- 2:30 Panel Discussion on Heart Disease
Digitalis
HERMAN J. SMITH, M.D., Des Moines
Diuretics
JULIAN E. MCFARLAND, M.D., Ames
Quinidine
HOWARD B. BURCHELL, M.D., Rochester
Question and Answer Period
General Summary
HORACE M. KORN, M.D., Dubuque
- 4:00 Recess for General Session

Tuesday Afternoon, April 20

South Ball Room

- 2:00 Chairman's Address
ARTHUR D. WOODS, M.D., State Center
- 2:10 Panel Discussion on Antibiotic Therapy
Antibiotics in Urology
RUBIN H. FLOCKS, M.D., Iowa City
Antibiotics in Medicine
ELMER L. DEGOWIN, M.D., Iowa City
Antibiotics in Surgery
FRANK R. PETERSON, M.D., Cedar Rapids
Question and Answer Period
General Summary
JOHN C. SHRADER, M.D., Fort Dodge
- 4:00 Recess to Main Ball Room for General Session

Surgical Section

Glenn C. Blome, M.D., Ottumwa, Chairman

Monday Afternoon, April 19

South Ball Room

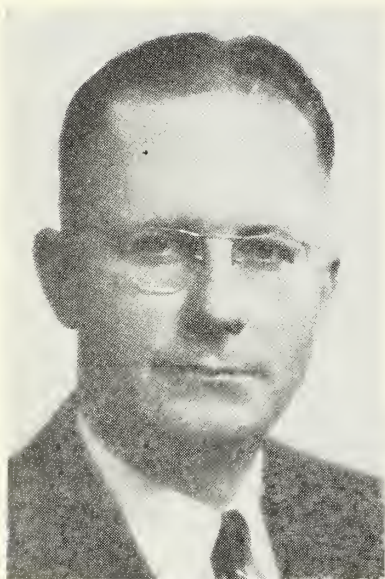
- 2:00 Chairman's Address
GLENN C. BLOME, M.D., Ottumwa
- 2:10 Fixed Osteotomy in Treatment of Ununited
and Fresh Fractures of the Neck of the
Femur
JOHN H. MOE, M.D., Minneapolis
- 2:40 Surgery in Cancer of the Esophagus
RALPH A. DORNER, M.D., Des Moines
- 3:00 Early Recognition and Treatment of Lower
Extremity Chondral Deformities
JAMES W. GRAHAM, M.D., Sioux City
- 3:20 Management of Peritoneal Soiling Complicat-
ing Surgery of the Abdomen
MERLE J. BROWN, M.D., Davenport
- 3:40 Open Discussion
- 4:00 Recess to Main Ball Room for General Ses-
sion

Tuesday Afternoon, April 20

Main Ball Room

- 2:00 Diagnosis and Surgical Treatment of Pul-
monary Stenosis
WILLIS J. POTTS, M.D., Chicago
- 2:30 Tumors of the Adult Kidney
NATHANIEL G. ALCOCK, M.D., Iowa City
- 3:00 Surgical Treatment of Abdominal Disease in
Infancy
MAURICE T. BATES, M.D., Des Moines
- 3:20 Surgical Treatment of Gastric Lesions
CLARENCE J. MIKELSON, M.D., Waterloo
- 3:40 Open discussion
- 4:00 Recess for General Session

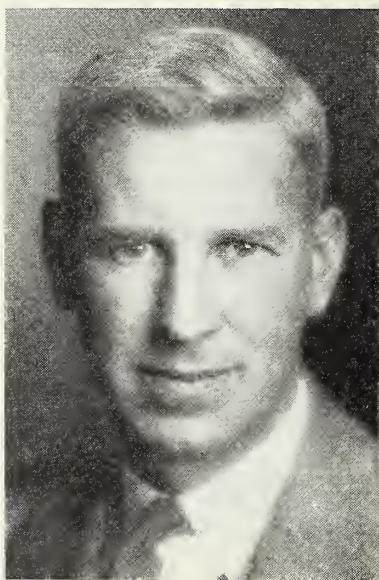
GUEST SPEAKERS



JOHN H. MOE, M.D.
Minneapolis



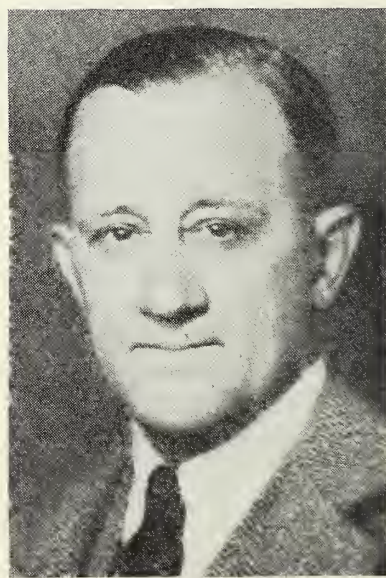
W. WALTER WASSON, M.D.
Denver



HOWARD B. BURCHELL, M.D.
Rochester



WINTHROP M. PHELPS, M.D.
Baltimore



JAMES S. SPEED, M.D.
Memphis

SECTION MEETINGS

Eye, Ear, Nose and Throat Section

Carl A. Noé, M.D., Cedar Rapids, Chairman

Monday Afternoon, April 19

The Ranch

- 2:00 Etiology and Treatment of Uveitis
ALSON E. BRALEY, M.D., New York
- 2:30 Plastic Surgery of the Nose
WILLIAM C. HUFFMAN, M.D., Iowa City
Discusser:
JACK V. TREYNOR, M.D., Council Bluffs
- 3:00 Diagnosis and Treatment of Blepharoconjunctivitis
JAMES H. ALLEN, M.D., Iowa City
Discusser:
JAMES E. REEDER, M.D., Sioux City
- 3:30 Radium Treatment of Lymphoid Tissue in the Nasopharynx
WILLIAM H. TYLER, M.D., Cedar Rapids
Discusser:
JAMES A. DOWNING, M.D., Des Moines

Tuesday Afternoon, April 20

The Ranch

- 2:00 Contact Lenses
PLACIDUS J. LEINFELDER, M.D., Iowa City
Discusser:
ORAL L. THORBURN, M.D., Ames
- 2:30 Foreign Body in the Nasopharynx
BYRON M. MERKEL, M.D., Des Moines
Discusser:
DEAN M. LIERLE, M.D., Iowa City
- 3:00 Problems in Refraction
LINCOLN F. STEFFENS, M.D., Dubuque
Discusser:
ELMER P. WEIH, M.D., Clinton
- 3:30 Serous Otitis Media
RALPH C. CARPENTER, M.D., Marshalltown
Discusser:
CECIL C. JONES, M.D., Des Moines

Orthopedic Section

Fred L. Knowles, M.D., Fort Dodge, Chairman

Monday Noon, April 19

Dining Rooms 1 and 2

Address—

WINTHROP M. PHELPS, M.D., Baltimore

Obstetric Section

Cecil W. Seibert, M.D., Waterloo, Chairman

Tuesday Afternoon, April 20

Des Moines Club—Third Floor West

- 2:00 Endometriosis
ROLAND S. CRON, M.D., Milwaukee
- 3:00 Round Table—Obstetrical Emergencies
Speaker:
M. EDWARD DAVIS, M.D., Chicago
Moderator:
CECIL W. SEIBERT, M.D., Waterloo

Pediatric Section

Robert H. McBride, M.D., Sioux City, Chairman

Monday Afternoon, April 19

Blank Memorial Hospital

- 2:00 Fibrosis of the Pancreas
CHARLES D. MAY, M.D., Minneapolis
- 2:30 Case Reports
Possible New Therapy for Acrodynia
CHARLES J. BAKER, M.D., Fort Dodge
Case of Spinal Cord Tumor
MORGAN J. FOSTER, M.D., Cedar Rapids
Esophago-tracheal Fistula
PRESTON E. GIBSON, M.D., Davenport
Venous Hum of the Neck
GEORGE J. KLOK, M.D., Council Bluffs
Mumps Encephalitis
PEIRCE D. KNOTT, M.D., Sioux City
Management of Prematures in a Small Hospital
MARYELDA ROCKWELL, M.D., Clinton
Ritter's Disease
JACOB N. LANDE, M.D., Sioux City
Miliary Tuberculosis Treated with Streptomycin
OMAR A. STAUCH, M.D., Sioux City
Business Meeting

Special Luncheons and Dinners

Monday Noon, April 19

Orthopedic Section
Dining Rooms 1 and 2

Guest Speaker

WINTHROP M. PHELPS, M.D., Baltimore
All interested doctors invited

Monday Night, April 19

Eye, Ear, Nose and Throat Section
Des Moines Club—Basement Room
5:30 p. m.

Iowa Anesthesiological Society
Hote Fort Des Moines—The Ranch
5:30 p. m.

Intravenous Procaine

MILTON J. PETERSON, M.D., Kansas City
Movies: Anesthesia in Argentina and Austria
STUART C. CULLEN, M.D., Iowa City

Iowa Orthopedic Club
Hotel Fort Des Moines—Dining Rooms 1 and 2
6:30 p. m.

Treatment of Difficult Nonunions of Long Bones
JAMES S. SPEED, M.D., Memphis

Iowa Pediatric Society
Des Moines Club—Colonial Room
6:30 p. m.

State Society of Iowa Medical Women
and
American Medical Women's Association, Branch 19
Younkers Tea Room
6:30 p. m.

Iowa X-Ray Club
Des Moines Club—Third Floor West
6:30 p. m.
Sinus Disease in Infants and Young Children and Its
Relation to the Sinus Disease and Certain Chest
Diseases of the Adult
W. WALTER WASSON, M.D., Denver

Smoker
Hotel Fort Des Moines—Main Ball Room
8:30 p. m.

Tuesday Noon, April 20

State Society of Iowa Medical Women and
American Medical Women's Association, Branch 19
Younkers Tea Room
12:15 p. m.

Business Meeting

Report of Fifth Congress of Medical Women's Inter-
national Association

HELEN JOHNSTON, M.D., Des Moines

Report of Mid-year Board Meeting

AILEEN MATHIASSEN, M.D., Council Bluffs

Committee Reports

Election of Officers and Delegates

Obstetric Luncheon
Des Moines Club
12:15 p. m.

Wednesday Noon, April 21

Iowa Society for Mental Hygiene
South Ball Room
12:15 p. m.

Tuesday Night, April 20

Annual Banquet

Hotel Fort Des Moines—Main Ball Room
7:00 p. m.

Dinner—Music—Dancing

House of Delegates

First Meeting, Sunday Evening, April 18
8:00 p. m.

South Ball Room—Hotel Fort Des Moines

Roll Call

Approval of Minutes of Friday Morning Session,
1947

President's Address

President-elect's Address

Reports of Officers

Reports of Committee Chairmen

Memorials and Communications

New Business

Election of Committee on Nominations

Second Meeting (Time and place to be determined
at first meeting)

Roll Call

Reading of Minutes

Report of Committee on Nominations

Election of Officers

Reports of Committees

Unfinished Business

New Business

Announcement of Committees

Adjournment

Golf Tournament

There are two possible dates on which to hold the annual golf tournament and your officers would like a vote from all interested doctors to determine which one would be better.

The House of Delegates is scheduled for eight o'clock Sunday evening, April 18. The golf tournament could be held Sunday afternoon. The meeting closes at noon on Wednesday, April 21, and the tournament could be held Wednesday afternoon.

Which afternoon do you prefer? Send your vote to Harold J. McCoy, M.D., Bankers Trust Building,

Woman's Auxiliary

For program see page 129 in Woman's Auxiliary News.

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THE JOURNAL

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SCIENTIFIC SECTION

THE PRINCIPAL CLINICAL FEATURES OF PATENT DUCTUS ARTERIOSUS AND THE TETRALOGY OF FALLOT

Robert L. Parker, M.D., Rochester, Minn.

Owing to the rapid progress which has been made in the past few years in the surgical treatment of certain types of congenital cardiac malformations, a new interest has developed in the entire field of congenital heart disease. No longer is the accurate diagnosis of congenital cardiac malformations of academic interest only. It now becomes the responsibility of the physician to attempt to make an anatomic diagnosis in each case in order that individuals suffering from these defects may not be denied surgical treatment when it is indicated. With modern diagnostic aids, an understanding of the embryologic development, a knowledge of the altered circulatory dynamics encountered and an acquaintance with the clinical picture, which is often quite characteristic, an accurate diagnosis is usually possible in most cases of congenital cardiac deformities. At the present time surgical treatment has been successfully carried out in patent ductus arteriosus, in coarctation of the aorta and in pulmonary stenosis usually associated with the tetralogy of Fallot. In this presentation I should like to point out the principal clinical features encountered in two of these conditions, namely, patent ductus arteriosus and the tetralogy of Fallot.

Patent Ductus Arteriosus

The ductus arteriosus is a vascular channel connecting the pulmonary artery and the aorta. It represents an essential part of the fetal circulatory system. At birth, with the establishment of normal pulmonary circulation, it becomes useless, closes spontaneously and eventually becomes only a small strand of fibrous tissue between these two vessels known as the ligamentum arteriosum. When the ductus remains open after birth there is a reversal of the flow of blood through the ductus and it becomes an arteriovenous fistula. The pressure being higher in the aorta than in the pulmonary artery, the shunt of blood is from the aorta to the pulmonary artery. The studies of Eppinger, Burwell and Gross¹ have shown that in artificially created ductus arteriosus in dogs as much as 40 to 70 per cent of the total left

ventricular output is shunted through the ductus to be recirculated again through the pulmonary circuit. The circulatory dynamics then result in a marked increased load on the left ventricle, a lessened systemic arterial blood flow in comparison to the cardiac work and an increased volume of pulmonary blood flow with consequent increased load on the right ventricle as well. With this concept in mind the clinical features of patent ductus arteriosus will be more clearly understood.

The patient is usually either a child, adolescent or young adult person who, not infrequently, is slightly underdeveloped and usually has been known to have a cardiac murmur since infancy or early childhood. There may have been no cardiac symptoms, but dyspnea on exertion, undue fatigability and heart consciousness are common complaints. Emphasis should be placed on the fact that cyanosis is not associated with uncomplicated patent ductus until the onset of congestive heart failure. Subacute bacterial endocarditis is a common complication, and before the era of penicillin therapy it was responsible for the death in 25 to 40 per cent of the cases. The lesion is one which is occasionally encountered in adult persons in middle age, but the studies of Bullock, Jones and Dolley² have shown that in children with uncomplicated patent ductus arteriosus the life expectancy is markedly reduced; 50 per cent of the patients in whom the lesion was noted after the third year of life died before the thirtieth year of life. The principal finding on examination is the characteristic murmur of arteriovenous fistula which is a loud, continuous murmur, frequently described as a machinery type of murmur. There is systolic accentuation of the murmur. It is loudest in the second and third left interspaces where there is usually an associated thrill. The second pulmonic tone is accentuated and there may be an increased sharpness to the first tone at the apex. The murmur of ductus arteriosus is one of the few diagnostic murmurs, and it is characteristic of this lesion. In infancy and again in patients with congestive heart failure the "ductus murmur" may be absent.

There is a wide pulse pressure with collapsing pulse similar to that seen in aortic insufficiency. This manifestation is the result of the physiologic effects of the arteriovenous fistula. In a typical case the blood pressure is in the neighborhood of

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From the Division of Medicine, Mayo Clinic, Rochester, Minn.

110 to 130 mm. of mercury systolic and 40 to 60 diastolic. The roentgenograms of the chest may reveal a heart which is essentially normal in size and in contour. In the majority of cases, however, one will note an increase in size of the left ventricle and a prominence of the pulmonary conus shadow. Roentgenoscopy will reveal an overactive left ventricle and, in most cases, increased pulsation in the pulmonary arterial shadows at the hilus of the lungs.

The electrocardiogram is an important link in the chain of evidence, principally because of the negative findings. The electrocardiogram usually reveals normal findings. If any abnormality is present it is that of a slight left axis deviation. The finding of right axis deviation in a suspected case of ductus arteriosus is almost certain evidence that there is some other associated anomaly. Since there is no venous arterial shunt in these cases and no inadequacy of the pulmonary blood flow, the degree of oxygen saturation of the arterial hemoglobin will be normal until congestive heart failure occurs. Patent ductus arteriosus is one of the most easily recognized congenital cardiac anomalies, and clinical diagnosis can be made with certainty in almost 100 per cent of the cases.

Surgical ligation or division of the ductus arteriosus has now become a relatively common operation. Six hundred and twenty-six cases have been reported and, no doubt, operations have been done in many more.³ The risk of surgical treatment has become progressively lower and is now less than 5 per cent in uninfected cases. In view of the ultimate poor prognosis in the untreated patient with patent ductus arteriosus it would seem only logical that at the present time surgical treatment be seriously considered in every case in which the diagnosis can be positively established. Although immediate surgical ligation has been advised by some authors in the infected case in which there is subacute bacterial endarteritis, it is my opinion that if the infective organism is one which is sensitive to penicillin, the infection should be eradicated by a prolonged course of penicillin therapy before surgical ligation is attempted.

Tetralogy of Fallot

The combination of congenital defects known as the tetralogy of Fallot is one of the most interesting of cardiac anomalies. The clinical picture is well defined and an accurate diagnosis can usually be made. The anatomic derangement is primarily one of maldevelopment of the outflow track or the right ventricle and first portion of the pulmonary artery. The pulmonary artery is stenotic at the orifice or is small, narrow and

underdeveloped. There is an associated defect in the membranous portion of the ventricular septum with overriding of the aorta, allowing both venous blood from the right ventricle and oxygenated blood from the left ventricle to enter directly into the aorta. The right ventricular enlargement, which completes the tetrad, is a secondary manifestation of the strain thrown on the chamber by the presence of the anatomic defects just mentioned. The tetralogy of Fallot in children beyond infancy is the most common congenital heart lesion associated with persistent cyanosis. There are numerous other more primitive defects of the morbus caeruleus type but with few exceptions they are incompatible with life for more than a few weeks or months.

Although the average survival period of patients with tetralogy of Fallot is only twelve years, occasionally this lesion may be encountered in adult persons and one patient is known to have survived to his sixtieth year.⁴ This particular defect has gained wide interest as a result of the brilliant work of Blalock and Taussig,⁵ who were able to show that by increasing the volume of blood flow to the lungs by means of an artificial anastomosis between one of the systemic arteries, such as the subclavian or innominate, and the pulmonary artery, thus creating an artificial patent ductus arteriosus, the cyanosis and exertion tolerance of these children could be greatly improved.

Clinical features of tetralogy: The clinical features of this syndrome are best illustrated in a child 3 to 10 years of age in whom transient cyanosis was noted at birth or soon thereafter, particularly when the child was feeding or crying. The cyanosis becomes more severe or may first be manifest when the child becomes more active and capable of walking or running. A murmur is usually present from infancy. It is systolic in time, loudest to the left of the midsternum, but there is nothing about the murmur which can in any way, be considered diagnostic. As the child becomes older, cyanosis becomes more intense and physical activities become more severely restricted, with dyspnea and easy fatigability. After exertion commonly the child will assume a squat position to rest. This phenomenon is encountered so frequently in children with tetralogy of Fallot that it is believed to have some diagnostic importance. Sudden periods of unconsciousness in which the child becomes limp and intensely cyanotic are frequently noted.

With the persistent severe oxygen unsaturation of arterial blood caused by both the venous arterial shunt into the aorta and the marked deficiency in pulmonary blood flow, secondary polycythemia

and clubbing of the fingers and toes become marked. It is not uncommon to find a hemoglobin content of 20 to 25 gm. or more per 100 cc. of blood in these cases, a hematocrit reading of 70 or 80 per cent for erythrocytes and an oxygen saturation of arterial blood of 50 per cent or less.

The roentgenographic examination of the heart is of greatest value in making the diagnosis of tetralogy. The heart does not appear enlarged yet the rounding and elevation of the left lower margin of the heart away from the diaphragm indicates enlargement of the right ventricle. In contrast to the usual cardiac defects associated with right ventricular enlargement in which there is also a prominence of the pulmonary conus shadow, in tetralogy there is a concavity in this region. The combination of right ventricular enlargement with absence of the pulmonary conus shadow gives the heart a characteristic boot-shaped appearance, the so-called *coeur en sabot*. These findings will be noted more clearly on roentgenoscopic examination; in addition the pulmonary fields appear remarkably clear with absence of the usual arterial pulsations in the lung hili. The electrocardiogram shows evidence of a marked right axis deviation, a finding which is in no way diagnostic, inasmuch as most congenital heart lesions with persistent cyanosis in children, with the exception of tricuspid atresia, give the pattern of right axis deviation.

One must bear in mind that the objective in the surgical treatment of pulmonary stenosis is an attempt to increase the volume of pulmonary blood flow. This can be accomplished in two ways: (1) by the Blalock operation of anastomosing the subclavian artery on either side with the right or left pulmonary artery just beyond its bifurcation, or (2) by making a direct side-to-side anastomosis between the aorta and pulmonary artery according to the method introduced by Potts, Smith and Gibson.⁶ Surgical treatment is not indicated in cases of congenital heart disease with cyanosis in which there is no deficiency in pulmonary blood flow. This imposes on the clinician a grave responsibility for the proper selection of cases.

In children beyond the age of three years the most common lesion associated with cyanosis which may be confused with the tetralogy of Fallot is the Eisenmenger complex. The latter syndrome consists of a ventricular septal defect with overriding of the aorta but without pulmonary stenosis. In this lesion cyanosis tends to be less intense and to develop at a later period in life. The lesion is usually consistent with a better tolerance for exercise. On roentgenographic exami-

nation, instead of concavity in the base as in tetralogy, the pulmonary conus shadow is full and there are normal or increased hilar pulsations indicative of an adequate pulmonary blood flow. If the clinical and roentgenologic findings are uncertain and the patient is of such an age as to allow cardiac catheterization, a more accurate determination of the pulmonary blood flow can be obtained by this procedure; if the determinations reveal a normal volume of pulmonary blood flow, such patients should not be considered as candidates for surgical treatment.

Complete transposition of the great vessels in which the aorta rises from the right ventricle and the pulmonary artery from the left ventricle represents a severe form of *morbus caeruleus* and is seldom compatible with life beyond a few weeks or months. In the rare case in which this lesion is encountered in children the clinical picture may closely resemble tetralogy of Fallot. There are these few differences, however: the heart in complete transposition tends to enlarge rapidly and has a peculiar globular configuration, and the fact that the aorta lies in front of the pulmonary artery makes it possible for this lesion to be diagnosed by roentgenographic methods.

The surgical treatment of tetralogy of Fallot does not alter the basic defects in the heart and can in no way be considered a curative procedure, which is in contrast to the effects of surgical treatment in patent ductus and in coarctation. The basic concept of the altered physiology, the proof of soundness of the idea of creation of an artificial ductus obtained through studies on animals, and finally, the successful employment of the procedure in the patient with tetralogy all represent one of the most outstanding surgical contributions in our time. All credit is due Blalock and Taussig for this splendid achievement. Even though questions regarding the ultimate prognosis in patients who have undergone surgical treatment and the question of added cardiac strain caused by the creation of the artificial ductus remain unanswered, there can be no question but that these children are greatly benefited by this type of operation. In light of the formidable nature of the procedure the surgical mortality will continue to be high, but yet in those cases in which the operation is successful it may well be considered a lifesaving procedure.

The achievements in this field of vascular surgery in recent years have truly been remarkable and it would seem likely that we are witnessing now only the opening of a much greater field in which vascular surgery based on sound physiologic principles will be employed. It was not my inten-

tion to discuss the surgical aspects of the treatment of these lesions, but rather to acquaint you better with the clinical features associated with two of the lesions which at present may be benefited by surgical treatment.

BIBLIOGRAPHY

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DEGENERATIVE CHANGES OF THE KNEE JOINT FOLLOWING INTERNAL DERANGEMENT

Ralph K. Ghormley, M.D., Rochester, Minn.

To anyone interested in the long-range development of lesions of the joints, the subject of internal derangements of the knee joints must be considered from two standpoints: first, the immediate effect of the derangement, a painful condition causing a variable degree of disability and usually demanding treatment and, second, the late results which may accrue in a joint which is the site of an internal derangement. The articular surface of the knee joints is covered with hyaline cartilage. Injuries to such cartilages are slow to heal, often leaving permanently damaged regions in the hyaline cartilage. When such repeated trauma occurs over a long period serious changes in the hyaline cartilage occur that cannot be repaired by any known means. Therefore it is important to correct internal derangements that possibly can be corrected in order to avoid a more permanent and severe disability later on in life.

History

Inasmuch as many patients who have internal derangements of the knees present themselves for diagnosis without definite findings on examination, the history is of the utmost importance. One should inquire carefully into the history of onset, whether following an injury or insidious or following infection; the immediate reaction, whether swelling occurs and for how long; the period of convalescence from the initial attack; whether

there is a true locking, a sensation of instability or recurrent swelling; and how each attack of pain is relieved, whether by rest, by manipulation or by spontaneous recovery.

Torn Semilunar Cartilages

In many instances of internal derangement due to tears of semilunar cartilages the history is the most important part of the examination, and careful inquiry about all pertinent points is of the utmost importance.

Often in cases of simple tears, examination gives negative results. If the patient is seen shortly after an episode of locking there is some effusion into the joint and a region of tenderness is usually found along the line of the semilunar cartilage, most often the medial, but at times the external cartilage. Occasionally a palpable thickening may be found along the line of either cartilage, particularly if the tear is accompanied by damage to the collateral ligament. In such cases this may disappear as the loose fragment disappears into the joint. In cases in which the cartilage is caught between the joint surfaces (locked), full extension of the knee is not possible, the amount of limitation of extension being dependent on the size of the fragment of the cartilage and its position in the joint.

One should always examine these knees carefully for instability. Lateral instability can be detected by holding the knee in full extension, grasping the femur above the knee and the tibia near the ankle and forcing the lower leg first into abduction and then into adduction. Any definite lateral instability is an indication of a tear of one or the other lateral ligament. Increased antero-posterior motion due to tears of the cruciate ligaments can be best detected with the knee in flexion between 30 degrees and 90 degrees. A convenient way to perform the test is to have the patient seated with his foot comfortably placed on the floor; sitting at right angles to the patient, the examiner places one foot before, the other behind, the patient's foot to keep it from slipping on the floor. The upper end of the tibia is then grasped firmly with both hands and forced forward and backward. A slight amount of motion may be detected in the knees of normal subjects but in tears of the anterior cruciate ligament an excursion of $\frac{1}{2}$ inch (1.3 cm.) or more may be noted. In cases of tears of the posterior cruciate ligament there is an abnormal posterior displacement on this manipulation. Combinations of tears of the medial collateral ligament and of the anterior cruciate ligament may produce a more marked degree of instability on each of the foregoing

From the Section on Orthopedic Surgery, Mayo Clinic, Rochester, Minn.

Read at the meeting of the Iowa State Medical Society, Des Moines, Iowa, April 18, 1947.

tests. Instability of the knee in simple tears of the semilunar cartilage is not marked. In the cases in which tears of the cartilage are associated with tears of the lateral or cruciate ligaments, it is important to recognize the complication and an entirely different prognosis must be given.

The presence of a marked amount of effusion into the joint is unusual in cases of tears of cartilages of the knees, except after an acute injury or an acute episode of locking. Palpable loose bodies in the quadriceps pouch are usually an indication of a loose body rather than a torn semilunar cartilage. Persistent thickening of the synovial membrane is not commonly encountered in cases of recurrent locking due to tears of the semilunar cartilages.

The importance of the roentgenologic examination should not be overlooked. While as a rule there is a negative roentgenogram, in some cases a narrowing of the joint space will be noted in cases of long standing. Various methods of roentgenography with air, oxygen or a fluid contrast medium have been advocated but without any wide acceptance. In order to evaluate roentgenographic changes in the knee properly my colleagues and I believe that the following exposures should be made: anteroposterior, lateral, intercondylar notch and patellar (fig. 1a, b, c and d).

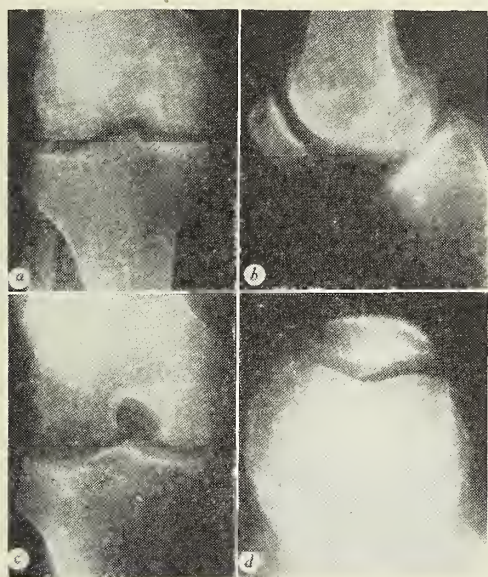


Fig. 1a. Anteroposterior view of knee; b, lateral view; c, intercondylar notch view; d, patellar view.

Treatment of tears of the semilunar cartilages.—The treatment of this condition is in our opinion removal of the torn semilunar cartilage or at least that portion of it which may cause locking. In acute episodes of locking, relief may be given

by manipulation of the knee until the loose portion slips back into its normal position. However, it is rare that such episodes of locking do not repeat themselves and we feel that with each episode of locking some damage to the articular surfaces of the tibia and femur is done, so that correction of the condition by removal of the loose fragment is important.

Much has been written about the technic of removal of such cartilages. Whether to use a tourniquet or not, what incision to use and what postoperative care to use have not been agreed on by all. It is our very definite opinion that the procedure should be carried out with the least possible damage to the surfaces of the joint. We prefer to use a tourniquet and to operate with the knee flexed over the end of the table and through a short medial incision. When the joint is opened careful inspection can be carried out and anterior or bucket-handle tears usually can be detected easily. A small retractor with a light on its tip has been found most helpful in visualizing the inside of the joint. Bucket-handle tears are the most common, and the cartilage may easily be removed through such an exposure. Likewise a torn anterior half of the cartilage can be easily removed. Most tears of the lateral semilunar cartilage may be seen through such an exposure and the cartilage removed.

In cases of posterior tears of the medial semilunar cartilage in which one is not able to reach the torn portion from the anterior incision a second posteromedial incision should be made. By this exposure the posterior portion can be thoroughly removed. In instances of tears of the lateral semilunar cartilage in which removal through the anterior incision is not possible, a posterolateral incision should be made and the cartilage removed.

Insistence on the removal of the entire cartilage seems to us a mistake. In so doing a great deal of additional traumatization of the joint results. Undoubtedly the convalescence is prolonged and the results are not so good. It is rare in our experience that the attached portion of the remaining semilunar cartilage causes trouble.

Usually the knee is splinted to a posterior molded plaster of paris splint for a period of three or four days. Quadriceps exercises are begun the day after operation. The splint is removed after four days and active exercises are begun. The patient is allowed up on crutches on the sixth day, and the use of crutches is continued for two or three weeks. If marked effusion occurs it is advisable to aspirate the fluid from the

joint. Such a procedure will shorten the convalescence in cases in which severe effusion takes place. Until the quadriceps power has completely returned, the recovery cannot be said to be complete.

Results from removal of semilunar cartilages in civilian practice are on the whole extremely satisfactory. Henderson¹ in reporting the results of removal of the semilunar cartilages at the Mayo Clinic found 77 per cent of the patients relieved of all trouble, 14 per cent improved and 9 per cent not improved.

Cleveland, Willien and Doran² found that only 46.0 per cent of a group of patients treated in military hospitals had been rehabilitated to full duty status and 42.9 per cent had been reclassified for limited duty status. Later reports from military hospitals indicate a higher percentage of recoveries in a more carefully selected group of cases. Jaekle³ reported 85 per cent returned to regular duty on an average of twenty-five days after operation. Another report⁴ from the orthopedic clinic at Lund, Sweden, revealed that in a group of 144 cases of removal of the semilunar cartilage, coincidental pathologic changes were as follows: 11 per cent had injuries to cruciate ligaments; 6 per cent had osteochondritis dissecans; 27 per cent had chondromalacia of the patella and 10 per cent had arthritis deformans. The results of treatment are given in table 1.

Such discrepancies in the results of treatment in groups of cases taken from civilian practice and military service are fairly representative. Cleveland's percentage of good results may be a little low, but in any series from military practice the end results are as a rule not so satisfactory as those among civilian patients. The civilian patient is anxious to get back on his feet again, will put up with slight discomfort and do a fairly quick job of restoration of muscle power and range of motion. The soldier, on the other hand, will make the most of any slight discomfort and his convalescence will be prolonged and restoration to full active duty slow and uncertain.

Cysts of Semilunar Cartilages

Cysts of semilunar cartilages are usually found in the external meniscus. According to Bristow⁵ cysts of the internal semilunar cartilage were found in two cases of 590 in which exploration for tears of cartilage was performed, while cysts of the external semilunar cartilage were found in 18 cases of 135 in which exploration was performed. This about represents the relative number of cases which may be found in any series. Cysts are of variable size, are usually filled with

gelatinous material and represent a degenerative change in the cartilage, probably secondary to trauma. When they develop to the size of a pea or larger, they may be expected to cause symptoms due to increased pressure between the joint surfaces on movement of the joint. Often when they reach the size of a small marble they can be diagnosed by the peculiar elastic palpable mass along the line of the cartilage.

Recognition of these cysts may at times be difficult and they may simulate a bursa beneath the collateral ligament and capsule. Removal of the cartilage with the cyst is the treatment of choice.

TABLE 1
Results of removal of semilunar cartilage^a

		Patients	Per Cent
Group I.	Perfectly free from all inconvenience	28	20
Group II.	Good results; practically free from inconvenience with insignificant subjective symptoms	72	52
Group III.	Fair results; more pronounced inconvenience, slight functional disturbances	37	26
Group IV.	Poor results; marked, in part disabling, trouble	3†	2

^aIn four cases the result was unknown.

†In none of these three cases were results due to meniscectomy as such.

Discoid Meniscus

Another lesion of the semilunar cartilage which is not common but should be recognized is the congenital discoid meniscus. This is a developmental anomaly in which the central portion of the external semilunar cartilage fails to be absorbed as it normally should. This leaves an abnormal membrane across the joint. The condition is found in children and is characterized by a clicking sensation during movement of the joint and by a sensation of weakness and some pain. Removal of the external semilunar cartilage is the treatment of choice.

Ligamentous Tears

This subject has already been mentioned in the discussion of the differential diagnosis of internal derangements of the knees. Tears of the ligaments are probably most commonly seen in athletes and the tear of the internal lateral ligament is the most common.

Mauck⁶ studied 587 cases of severe acute injuries to the knees. In this group he found that 71 per cent of the total were tears of the tibial collateral ligament while injury to the fibular collateral ligament was rare. Mauck has advocated conservative treatment consisting of, first, prevention of prolonged distention of the capsule; second, protection of the injured ligaments; and

third, avoidance of atrophy of disuse and maintenance of tone of the supporting muscles, especially the quadriceps and vastus. On the other hand, Abbott, Saunders, Bost and Anderson⁷ have advocated open repair of tears of the tibial collateral ligament. Most tears of the lateral ligaments alone heal with little permanent disability. A common complication is an abnormal deposit of bone and calcium at the site of the tear from the medial condyle. Such a deposit may show as a permanent shadow in the roentgenogram and has come to be known as Pellegrini-Stieda disease. Pellegrini⁸ gave a complete description of this condition, attributing it to trauma but stating that it was rare. In our experience it is not so rare. Pellegrini also advocated surgical excision in painful types. In our experience once the healing stage is complete the mere presence of an ossified mass is of no serious consequence and can be disregarded.

In cases in which there is a tear of the internal lateral ligament together with a tear of the anterior cruciate ligament a much more serious permanent disability often results. Such knees are unstable, with a noticeable instability on walking and a very definite "drawer sign" on examination. In many cases the condition of the knee can be improved by building up the strength of the thigh muscles with heavy resistance exercises and by keeping the patient on a regimen avoiding strenuous sports and activities. In our experience surgical repair of the anterior cruciate ligaments has not proved satisfactory except in a small number of cases, and it seems to us that most surgical procedures designed to correct this condition are not very successful.

Another lesion involving the region of the internal lateral ligament is painful bursitis. Such bursae are probably more frequently present than has heretofore been recognized. Voshell and Brantigan⁹ clearly described this lesion, and my colleagues and I have encountered it a number of times.

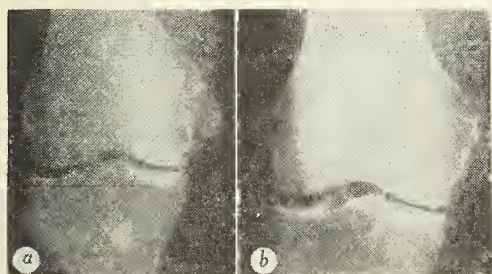


Fig. 2a. Calcified bursa beneath tibial collateral ligament; b, same case after six weeks of treatment by diathermy, showing partial disappearance of the calcification. (Complete disappearance after eleven weeks.)

I have observed three forms of bursitis: (1) gelatinous cystic bursae, developing beneath the ligament; (2) calcified bursae developing in the same area (fig. 2a and b); and (3) exquisitely tender painful regions with slight swelling which are presumably acutely inflamed bursae but without calcification or mucinous degenerative changes. The first type requires surgical excision while the latter two types usually respond to local diathermy and physical therapeutic measures. Injection of procaine hydrochloride into the latter two types may help.

Fractures of the Tibial Spine and Plateau

Fractures of the tibial spine often result in some permanent disability when not completely reduced. There is usually a separation of the attachment of the cruciate ligament. When properly reduced, these fractures heal satisfactorily but in some cases satisfactory reduction is not accomplished and there is left an irregular block at the anterior portion of the joint. Oftentimes there is an added damage to the articular surface which leaves more or less residual disability.

In cases of fracture of the tibial plateau a similar condition exists. There is often an associated damage to the semilunar cartilage on the side of the fracture. There is usually an extensive damage to the articular surface of the tibia and sometimes damage to the articular surface of the femur. An additional factor leading to permanent disability in these cases is the relaxation of the collateral ligament and the late tendency to development of knock knee or bowleg, depending on which tuberosity is compressed. With the malalignment and relaxation a constant strain on the joint is developed so that in time traumatic arthritis develops, leading to a permanent disability.

Chondromalacia of the Patella

It is only within the last five years or so that this lesion has come to be widely recognized. The condition is a gradual disintegration of the cartilage on the articular surface of the patella. Usually after injury involving a more or less direct blow on the patella, the articular surface is traumatized and the cartilage damaged. Swelling of the hyaline cartilage followed by fibrillation and later by degeneration ensues. In the end, osteo-arthritis develops and with the constant abnormal attrition on the condyles of the femur, severe degenerative arthritis results.

Cox¹⁰ described the gross pathologic picture of chondromalacia of the patella as showing (1) softening, irregularity of contour and formation

of fissures in the articular cartilage of the patella; (2) yellowish discoloration of the articular cartilage in the involved regions; (3) similar changes in the articular cartilage of the femoral condyle in its anteromedial aspect; (4) thickening, hyperemia and villous degeneration of the synovium, usually confined to the region of the suprapatellar pouch and the anterior compartment of the knee; (5) increased joint fluid, and (6) pannus formation at the edges of the articular cartilage of the patella and femoral condyles.

The symptoms are a painful condition of the knee, the pain usually centering about the patella and being exaggerated on movements of the knee joint. In more advanced cases, a catching sensation develops which is due to the irregular patellar articular surface passing over the irregular femoral surface. This catching may at times be so severe as to resemble a locking of the knee joint. On examination the outstanding sign is crepitus on passive movement of the patella across the anterior femoral surface. This is usually painful, as is direct pressure on the knee. Roentgenograms may or may not be helpful. A special view of the patella to show its relationship to the intercondylar groove may be helpful in determining the amount of damage to the hyaline articular cartilage.

The lesion is gradually progressive, in the end resulting in a considerable amount of disability. Efforts to minimize the disability by dissection of the fibrillated cartilage from the patellar surface may delay the more serious stage to some extent but in those cases in which marked change and marked disability are present, patellectomy is the surest method of obtaining relief.

Recurrent Dislocation of the Patella

One of the causes of chondromalacia is recurrent dislocation of the patella. With each successive dislocation more damage to the articular surface of the patella occurs. In more advanced cases severe arthritis develops (fig. 3a and b). Recurrent dislocations are best treated by surgical procedures. My colleagues and I usually transplant the distal attachment of the patellar tendon medially with plication of the capsule. In patients showing more advanced arthritic changes removal of the patella is the procedure of choice.

Synovial Osteochondromatosis

This condition is a benign tumor formation in which numerous osteocartilaginous bodies develop in the synovial membrane, most commonly arising at the margin between the synovial membrane and cartilage. The prevailing notion regarding the

cause of this condition is "that due to some disturbing influence the differentiation of the mesenchymal cells into cartilage and synovia is not complete and there are left in the synovial membrane nests of cartilage cells which develop into bodies."¹¹

The number of loose bodies varies from a few to hundreds, and their size varies from that of a millet seed to that of dice or larger. While in early stages there is not much damage to the articular surfaces, in time, owing to repeated locking from the loose bodies, much articular damage is done which remains permanent.

The diagnosis as a rule is not difficult. A history of repeated locking of the knee with moderate swelling and synovial thickening and often numerous loose bodies that can be palpated in the synovial pouch is the common picture. Roentgenograms reveal numerous shadows of variable size, some faint, representing osteocartilaginous change, while others are more dense and bony in character.

Treatment is surgical. Removal of the loose bodies is necessary to relieve the condition. Often this should be supplemented by synovectomy, for many of these loose bodies may be forming in the membrane and subsequently develop to the stage at which they may produce symptoms.

Osteochondritis Dissecans

This condition was first named by König,¹² who described the condition as a necrosing process which he regarded as probably traumatic, leading to the occlusion of the vessels with subsequent separation of the region supplied by that vessel. He thought that the actual separation was produced by a dissecting osteochondritis. Hence, the name "osteochondritis dissecans." All stages of development of this condition have been observed. In my opinion, in most of these cases the process really begins in adolescence when epiphyseal development is taking place. In many such cases the symptoms are minimal or the condition may be silent. When a more advanced stage is reached the region of osteochondritis projects above the joint surface enough to produce an irregularity of the joint. Later the region of osteochondritis may become partially or completely detached and episodes of locking may ensue. These may be mild or severe, depending on how completely the bony fragment becomes separated. In most cases the fragment is found to arise from the intercondylar notch side of the articular surface of the internal condyle. However, it may arise from any portion of either condylar surface or from the articular surface of the patella.

If the fragments are not removed the repeated episodes of locking cause an increasing amount of damage to the articular surface of the knee joint so that in time severe traumatic arthritis develops.

The treatment in these cases is usually surgical, though in the very early stages in adolescence showing minimal or no symptoms, observation over a period of many months may reveal a return to normal or near normal appearance of the joint surface in the roentgenogram, and spontaneous healing may be said to have taken place. In other cases in which evidence of complete or nearly complete separation of the fragment is apparent in the roentgenogram, surgical removal

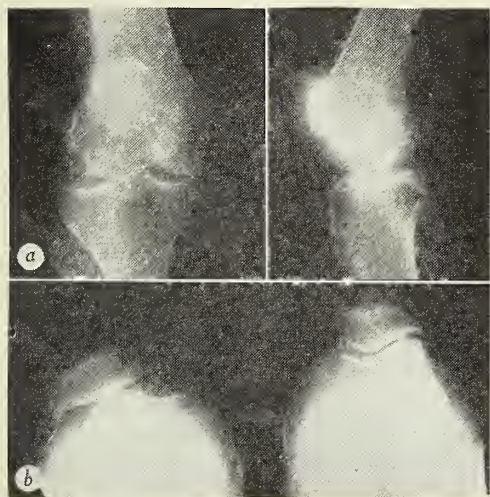


Fig. 3a. Anteroposterior and lateral views of knee with persistent recurrent dislocation of the patella; b, patellar view of same knee showing displacement and thinning of patellofemoral joint spaces.

of the fragment or fragments is the procedure of choice. The bed from which the bone fragment arose should be thoroughly cleaned of fragments of cartilage and left as smooth as possible. Other fragments of cartilage may become detached and cause symptoms, but as a rule the surgical treatment described gives a thoroughly satisfactory result.

Synovitis

The following types of synovitis may be encountered:

- I. Acute
 - A. Traumatic
 - B. Infectious
 1. Serous
 2. Suppurative
- II. Intermittent hydrops
- III. Chronic
 - A. Traumatic
 - B. Rheumatoid

IV. Tuberculous

V. Chronic infections of other types—Brucella

VI. Secondary to tumors

- A. Xanthoma
- B. Hemangioma
- C. Synovioma

VII. Hemophilic

In any patient presenting himself with a swollen knee joint in which there is evidence of thickening of the synovial membrane, effusion into the knee joint or both, a diagnosis of synovitis must be made. The history may reveal an adequate explanation for the presence of the condition or it may not. Acute traumatic synovitis is the result of trauma of varying degrees of severity and is due to damage to the synovial membrane of comparable severity. In some cases there is a simple serous effusion with little or no thickening of the synovial membrane and in others extensive damage to the membrane may be present with effusion and hemorrhage. In some cases the effusion may be almost purely hemorrhagic.

Usually the amount of pain depends on the amount of effusion and intra-articular tension. In cases of hemorrhage into the joint an unusual amount of pain may be present even with only a moderate degree of swelling, the blood acting as a severely irritating stimulant to the synovial membrane. Besides swelling and thickening of the synovial membrane, there is a variable amount of limitation of motion, partly due to pain and muscle spasm and partly due to mechanical blocking of the joint from intra-articular tension.

Treatment.—In milder cases, rest with a compression bandage and heat, in the form of hot packs, diathermy or radiant heat, usually gives relief. When tension is severe, aspiration of the joint should be carried out and repeated if necessary if recurrence of the effusion takes place. In the acute traumatic types, packing the knee in ice or the use of ice caps will help to minimize the amount of swelling which takes place.

After any aspiration, compression bandages should be applied and from the first day quadriceps exercises should be carried out to prevent disuse atrophy of the quadriceps mechanism.

In acute synovitis from infection the story of onset without trauma, with pain and swelling and an elevated temperature, local and general, should suggest a suppurative type of synovitis. Such a condition may be local or a part of a general infectious process, such as gonorrhea, or septicemia. In these cases, diagnostic aspiration and determination of the infecting agent by culture are indicated. As soon as the agent is known,

chemotherapy should be begun if the infecting agent is one that is sensitive to penicillin or to the sulfonamides. Penicillin may be used both intra-articularly and intramuscularly, usually with quick and satisfactory results. Splinting to prevent painful movements should be carried out and, in case it is necessary, general supportive measures should be instituted.

Surgical drainage of such knees is rarely necessary now.

Intermittent hydrops.—This condition is characterized by a cyclic swelling of the knee, the swelling occurring at regular intervals with moderate disability, stiffness and slight pain. Usually the swelling subsides within two or three days, leaving the joint apparently normal for a period of several days. The condition may persist over many months or even years without any evidence of serious permanent damage to the joint. At times both knees may be affected, not necessarily swelling at the same time.

The usual search for a focus of infection should be carried out but often will not reveal any focus. Efforts to improve the condition by rest, bandaging, physical therapy and so forth have in our hands not been very successful. In some instances, my colleagues and I have attempted relief by synovectomy, with success in a small percentage of cases and failure in others. In some cases either with or without operation we have seen a generalized rheumatoid arthritis develop as a sequel to this condition so that we have come to regard the condition as a minimal stage in a rheumatoid arthritis which at times may become arrested and never develop the complete clinical picture.

Rheumatoid synovitis.—True rheumatoid synovitis is manifested by a subacute or chronic effusion with thickening of the synovial membrane of a variable degree. The condition as a rule is gradually progressive and while improvement may occur with rest and physical therapy, a recurrence usually takes place on resumption of activity. In time, as a rule, other joints become involved and a fully developed rheumatoid arthritis results. At other times the symptoms subside with treatment and the condition apparently becomes arrested.

Tuberculous synovitis.—Tuberculous synovitis of the knee does occur, but it is probably rare for tuberculosis to affect only the synovial membrane. Earlier writers have gone extensively into the question whether or not a purely synovial type of tuberculosis could exist. It seems likely that it may exist but it would not remain long confined to the synovial membrane as the tuber-

culosis early invades the subchondral region and then the bone and a tuberculous panarthrititis exists.

In any chronic swelling of the knee with mild pain increased on activity but without evidence of local elevation of temperature one may suspect tuberculosis. While tuberculosis is on the decrease and this condition is encountered less frequently than in former years, one should always bear in mind the possibility of a tuberculous joint in such a case. The roentgenograms are usually negative in the early stages, although in late stages there is usually a fairly characteristic picture of marginal destruction, thinning of the joint spaces, synovial thickening and diminished density of the adjacent bone. The presence of tuberculous lesions elsewhere in the patient may support the diagnosis of tuberculosis. However, proof of the diagnosis may be obtained by aspiration of fluid and injection into a guinea pig. Such a procedure may take six to eight weeks and is not always a sure method, there being a 12.5 per cent error in our experience.¹³

The importance of making a correct diagnosis in order to establish proper treatment makes biopsy justifiable in these cases. It has been our custom in years past to advise arthrodesis when a diagnosis of tuberculosis has been made positive. We have tried synovectomy only to have it fail in all but one case of tuberculosis of the knee. Prolonged rest rarely produces satisfactory healing. What results may be obtained with the newer chemotherapeutic agents cannot be said now, though in some instances there seems to be promising improvement shown. In view of this, our attitude on fusion operations may have to be modified although tuberculous synovitis is not encountered often enough to enable one to be sure of any end results from chemotherapy.

Other types of synovitis.—Other types of subacute and chronic synovitis may be encountered and may present difficult problems in diagnosis. Aspirations with culture or biopsy are indicated in order to establish a diagnosis. Treatment depends on the type of infecting agent found.

One will occasionally encounter a persistent synovitis secondary to tumors such as xanthoma and hemangioma. There are no special signs or symptoms by which one can be led to a certain diagnosis of these conditions. As a rule, hemangiomas are multiple and occur in other regions. When present in joints, they are often characterized by episodes of severe pain with comparative freedom between the attacks. Xanthomas may rarely be multiple, involving tendon sheaths as well as joints. It is because such conditions can

be satisfactorily treated only by exploration and excision that we believe operative treatment is indicated. In fact, in most cases of chronic persistent synovitis which does not respond to a reasonable amount of conservative treatment we have come to regard exploration as the best method of approach to the problem.

A rare condition involving the synovial membrane is a synovioma or tumor of the synovial membrane. Since this is regarded by most writers as a malignant tumor because of its tendency to recur and ultimately to metastasize, it is of course important to make the diagnosis as early as possible and perform an amputation in cases in which the diagnosis is made.

Another type of synovitis is that encountered in cases of hemophilia in which repeated hemorrhages into the joint produce gradually progressive synovitis and arthritis. These joints become the site of a severe arthritic change and with each successive episode of hemorrhage the process becomes more disabling. Except for rest, applications of cold and transfusions during the periods of active hemorrhage, no definite treatment is known.

Painful Atrophy of the Knee Joint

Any discussion of painful knees would be incomplete without mention of this condition. Usually brought on by an injury of relatively minor importance a state of painful atrophy is set up which at times may become very troublesome. This atrophy involves bone, muscle and other joint structures in the more advanced stages. Activity produces more pain, which in turn causes the patient to rest the knee more and thus increase the amount of atrophy so that a vicious cycle is established. In such cases the most important point in approaching the case is to establish beyond doubt the diagnosis of painful osteoporosis. This is usually done by exclusion of all other types of lesions. Once certain of the diagnosis a graduated program of exercises and physical therapy will restore the knee slowly to normal or near normal. Sympathectomy, both lumbar and periarterial, has been advised and used by some surgeons although in our experience the results have not been satisfactory.

Neurotrophic Joints

Neurotrophic joints may be encountered occasionally in cases of tabes, syringomyelia and other neurologic conditions. Characterized by swelling and instability with progressive destruction of the joint but usually without pain, the condition is as a rule not difficult to recognize. Occasionally a successful arthrodesis of such

knees may be carried out though usually the patient will get along surprisingly well until the instability of the joint reaches a point at which it is necessary for him to wear a walking brace to prevent entire collapse of the knee.

Conclusions

In presenting the foregoing conditions, I have stressed the point that damage to the articular cartilage usually accompanies them. This damage is usually permanent and leads to a chronic disability of variable severity. The earlier the condition is corrected, the less permanent damage is done. In some cases, when more advanced changes have taken place, the damage is so extensive and troublesome that the only way to produce relief from a very troublesome and painful joint is to perform arthrodesis.

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GALLSTONE ILEUS

Report of Five Cases

Wendell L. Downing, M.D., Le Mars

Acute obstruction of the small intestine from any cause is a serious abdominal disease. Obstruction due to a gallstone is rare, yet one must bear the possibility in mind in all cases if tragic errors are to be avoided. Up to 1938 some 500 cases had been reported in the literature. In several series of cases of intestinal obstruction from all causes, with a total of 14,406 cases, gallstone ileus was present in from .7 to 7 per cent in individual series. Balch¹ in 1938 reported 8,108 cases of acute obstruction with 142 due to gall-

stones, an incidence of 1.7 per cent. In 1939 ten cases were reported from the Mayo Clinic.² Martin³ reported 500,000 operations collected from many prominent surgeons with 16 cases of gallstone ileus, an incidence of one in 30,000 operations. Women are reported to have gallstones three times more often than men yet the incidence of obstruction due to stones is fifteen times more common in women.

Few cases of gallstone ileus have been diagnosed prior to operation, and surgery has been delayed in most cases. It is imperative, as emphasized by Gilman,⁴ to consider a gallstone as the likely etiology of small bowel obstruction in elderly patients in whom no previous laparotomy has been performed.

Site of Cholecysto-enteric Fistula

Wakefield² in 1939 reported 158 cases with the fistulous opening in the stomach in 24, the duodenum in 101, ileum none and the colon in 33 cases. Occasionally fistula are multiple, and they have been reported into the bronchial tree, pleural and pericardial cavities, gravid uterus, pelvis of the kidney and an ovarian cyst. In a few cases the common duct was hugely dilated, and the stone may have passed from the duct into the duodenum. Locations of the stone in 89 cases of obstruction were: pylorus, 1 case; the duodenum, 6 cases; duodenujejunum, 2 cases; jejunum, 15 cases; ileum, 63 cases; and the ileocecal region in 3 cases.

The pathogenesis of gallstone ileus is, briefly, an advanced chronic cholecystitis with cholelithiasis, acute cholecystitis with an inflammatory reaction adhering the gallbladder to the gastro-intestinal tract and subsequent necrosis with fistula formation. In an occasional case the fistula may close after the stone is extruded. A fistula often becomes small after the stone is extruded; stones, if small, may pass through the intestine and no obstruction develop. Occasionally a large stone may be passed or become impacted in the rectum. If a large faceted stone is found, a second stone is usually present. Many cases are on record in which a second stone obstruction developed while the patient was still in the hospital.

Symptoms

In Hinchey's⁵ series, 8 of 13 cases had a history suggestive of disease of the biliary tract and six had an acute episode suggestive of acute cholecystitis. In Foss and Sommers⁶ series 46.6 per cent had pain compatible with gallstone colic and 32 per cent had symptoms suggestive of perforation of the gallbladder. In some cases no history of gallbladder indigestion or acute inflammatory

attacks can be obtained. The patient's symptoms in individual cases are due to acute and chronic gallbladder inflammation, emigration of the stone into the intestine and a current obstruction. The first two are often impossible to differentiate, and in an occasional case acute gallbladder inflammation and obstruction are present at the same time. A typical symptom is general abdominal colic, which may be intermittent, for the obstruction is only partial and the stone may move, resulting in spontaneous improvement. Nausea and vomiting are common, the vomiting being persistent and later becoming projectile. A dark emesis is characteristic of acute intestinal obstruction. Decompressive therapy may relieve the symptoms and add to the confusion in diagnosis. Tenderness is usually slight as the obstruction is mechanical early; the damage to the intestinal wall with gangrene occurs late. Occasionally marked tenderness is present if complicated by perforation and peritonitis. Distention is absent to moderate depending on the level of the obstruction; it is absent in high obstruction and maximum if the stone is low in the ileum. Fever is absent early but is elevated late due to changes in the bowel wall with perforation and peritonitis.

The length of time a stone may be present in the intestine before obstruction occurs is variable. The duodenum is the widest portion of the small intestine with progressive narrowing to the cecum. A number of cases are available to indicate that the stone may be in the bowel several years before obstruction occurs. A frequent finding is a small fibrous fistula with a large stone in some segment of the intestine. Clute reported a case of a patient unable to take solid food for five years; only dense adhesions were present, adhering the gallbladder to the duodenum, and two resections were necessary to remove over a dozen gallstones fixed in the ileum by multiple areas of obstruction.

An interesting question arises: "Can a stone enlarge during its stay in the intestine?" Wangenstein⁷ reports that a stone probably can enlarge if it remains in one portion of the intestine, particularly if drugs such as bismuth, calcium or magnesium are taken orally. A question of importance also is the condition of the common duct in gallstone ileus. Stones are frequently present in the common duct in cholecystoenteric fistula; in 109 cases reported by Bernhard⁸ 55 patients had common duct stones, and stones were still in the gallbladder in 17 cases. The development of a fistula is often lifesaving in duct obstruction, as the dilated infected biliary radicals can then drain into the intestine.

Diagnosis

In the diagnosis of gallstone ileus several points are of interest. In an elderly patient, particularly if a woman, one should think of the possibility of a stone, and a careful search should be made for a history of gallbladder disease. X-ray studies are of importance in the diagnosis of intestinal obstruction from any cause. A flat film of the abdomen often shows dilated loops with fluid levels. Occasionally a barium enema is valuable to determine if large or small intestinal obstruction exists. Important x-ray findings in gallstone ileus are: (1) radio opaque stones may be present, but in from 75 to 80 per cent of cases the stone is not visualized; (2) air in the biliary radicals is indicative of a fistula; (3) thin thorium or barium may be given orally to locate the obstruction but may be dangerous unless a Miller Abbott tube is in the intestine; (4) occasionally a negative shadow of a stone in an air filled segment is found. Rigler and Borman,⁹ in a careful study of 14 cases of gallstone ileus, found that in 13 of the patients the exact diagnosis could have been made by the x-ray findings present. In one series of 36 cases in which x-ray examinations had been made previous to surgery, 22 revealed visualization of the biliary tree.

Mortality

The mortality rate of 60 per cent to 70 per cent in gallstone ileus is due to obesity, advanced age, poor operative risk due to degenerative changes and to a delay in surgery. Rarely is the condition of the patient such as to permit of a closure of the fistula or a cholecystectomy at the time of the obstruction.

Therapy

The treatment of gallstone ileus is briefly as follows:

1. Decompress the stomach and intestine by suction while making a diagnosis.
2. Restore electrolytes, overcome dehydration and improve the cardiac status of the patient.
3. Institute surgical treatment early; have site of obstruction determined if possible to permit proper incision and require less exploration.
4. Spinal anesthesia is best as it prevents regurgitation of intestinal contents and exposure is facilitated.
5. Trace the collapsed bowel proximally to avoid handling of dilated segments. If the bowel is viable, the stone need not be displaced proximally.
6. Make a longitudinal incision, closing transversely with a rubber shod clamp to prevent spillage.

7. If necrotic intestine is found, resection and anastomosis is indicated if the condition of the patient permits; if not a Mikulicz exteriorization is the procedure of choice.

8. Make a meticulous search of the entire stomach and intestine, particularly if a faceted stone is found.

9. Palpate the gallbladder area to determine the presence of other large stones.

10. Continue suction and intravenous fluids postoperatively.

This complication of neglected gallbladder disease can be avoided if earlier operation for cholelithiasis is performed. In all patients operated on for any cause, if a cholecysto-enteric fistula is found it is imperative that a careful search be made of the entire gastro-intestinal tract for a possible stone already extruded from the gallbladder. Otherwise serious trouble may result.

The following five cases of gallstone ileus were encountered by the author in a 25 year period, all being seen in the past ten years. A study of these cases show that the clinical picture may be confusing, and it also emphasizes the importance of an early diagnosis and a prompt definitive treatment.

Case Reports

Case 1

An obese female, aged 65, twenty-four hours before admission developed acute colicky abdominal pain followed by vomiting. The pain and vomiting continued without relief until her admission. Her past history showed one attack eight years before of severe upper abdominal pain with tenderness lasting several weeks. A diagnosis of acute gallbladder disease had been made.

On admission Nov. 21, 1936, the patient was acutely ill, moderately dehydrated, and her temperature was normal but the leukocyte count was 22,000. Examination showed general abdominal tenderness and rigidity with slight distention. She had no right upper quadrant tenderness. After twenty-four hours treatment by gastric suction and intravenous fluids she was explored through a right rectus incision. The proximal ileum was dilated, and in about its midportion a mass was palpable. The distal ileum was collapsed. The cylindrical mass about two inches in diameter was displaced proximally and was removed through a longitudinal incision. A transverse closure was done. The gallbladder was enlarged and thickened and contained small stones. It was adherent to the duodenum by dense adhesions. Suction was continued postoperatively, and rapid improvement occurred. On the tenth day her temperature was 102 and her white count 14,000. Distention

had developed and she again had intermittent colicky pain. A diagnosis of ileus from a second stone was made. Exploration showed extensive fibrinous exudate between loops of ileum maximum at the site of the enterostomy. Adhesions to the parietal peritoneum produced partial obstruction. The entire small intestine was examined and no stones were found. The adhesions were freed and the omentum was placed over the ileum. On the day following her second operation the patient expelled a large gallstone from the rectum.

Postoperatively she developed wound suppuration and a severe thrombophlebitis of her left lower extremity. Repeated episodes of chills and fever occurred, and small pulmonary emboli were evident. After a long convalescence the patient made a complete recovery.

Case 2

Three days before admission the patient, aged 73, developed acute abdominal pain with frequent vomiting. The symptoms continued until his admission April 26, 1939. Three months previously the patient had undergone a prostatic resection; subsequent constipation developed. Repeated laxatives resulted in liquid stools, but for seven days before admission the patient had had no stools. A careful history did not reveal indigestion or acute abdominal attacks.

On admission examination showed a tall, slender male badly dehydrated with no fever and a leukocyte count of 12,000. The abdomen was moderately distended but not tender, and peristalsis was active; rigidity was absent. A flat film of the abdomen showed the proximal colon distended with gas down to the sigmoid. A barium enema revealed what was diagnosed as partial obstruction of the sigmoid. After twenty-four hours treatment with gastric suction and intravenous fluids, the abdomen was less distended and the patient's condition improved. Under spinal anesthesia the patient was operated on through a left muscle splitting incision. The small intestine was hugely dilated, the sigmoid and left colon were normal. An enterostomy was done in one of the dilated loops of small intestine using a No. 16 F. catheter. Aside from moderate wound infection the patient improved for five days, then abdominal pain developed, drainage from the enterostomy decreased and the patient developed fever and mental confusion.

On the eighth postoperative day under spinal anesthesia the abdomen was again explored through a right para median incision. The proximal ileum was dilated and its walls reddened and boggy. A large gallstone was impacted low in

the ileum proximal to the enterostomy. The stone which measured two and a half inches in diameter was removed through a longitudinal incision, and the incision was closed transversely. The gallbladder area was not examined. The patient made an uneventful recovery and no recurrence developed.

A more accurate diagnosis as to the site of the obstruction would have resulted in an incision permitting exploration, and the correct procedure could have been carried out at the first operation.

Case 3

Six days before her admission on Jan. 25, 1944, the patient, an obese female, aged 79, developed sudden diffuse acute abdominal pain followed by vomiting. By the following day the pain had localized in the right lower quadrant. When seen that day she had right lower quadrant tenderness and rigidity; her leukocyte count was 13,300 and her temperature normal. Hospitalization was advised but refused. For the next four days the patient vomited infrequently and had mild colicky abdominal pain. When seen the second time, the day of her admission, the patient was dehydrated and seriously ill, the abdomen was moderately distended and tender, her temperature was 99 F. and leukocyte count 10,000. The patient's past history showed a gallbladder type of indigestion, but no acute attacks were admitted by relatives. Senile dementia had been evident for the past two or three years.

For twenty-four hours the patient was treated by intravenous fluids and gastric suction, and the abdomen was then explored under ether anesthesia. The small intestine was moderately dilated but viable. Six to eight inches proximal to the cecum a large gallstone was present in the ileum. The stone was not impacted and the intestinal wall was in good condition. The stone was displaced proximally and removed. Closure of the abdominal wall was difficult. Postoperatively, the abdomen became less distended and several liquid stools were expelled. In spite of treatment the patient did not improve but developed fever and coma and died on the fourth postoperative day. Early surgical intervention as advised would probably have resulted in a favorable outcome.

Case 4

A moderately obese female 61 years of age became ill on March 6, 1944, two days before admission. She first developed nausea followed by vomiting with mild dull pain across the lower chest and upper abdomen. Her vomiting and pain continued but the vomitus was not dark. A care-

ful past history did not reveal acute abdominal attacks or gaseous indigestion.

On admission the patient was in good condition; examination revealed moderate tenderness in the upper abdomen but no mass or rigidity. Her temperature was normal and leukocyte count 16,000. For twenty-four hours she was treated by intravenous fluids and gastric suction. Exploration under ether on March 9 through a right upper rectus incision showed a thickened acutely inflamed gallbladder surrounded by dense adhesions. The midportion of the gallbladder was adherent to the greater curvature of the stomach in its prepyloric area, and a scarred fistula the diameter of a lead pencil was present. The area around the fistula was red and edematous, and the traction between the gallbladder and stomach appeared to produce obstruction of the duodenum. Small stones were incarcerated in the fundus of the gallbladder. The gallbladder was dissected free from the stomach and the fistulous opening in the stomach closed. The gallbladder was freed and removed and a drain was sutured to the cystic duct stump. The visible part of the small intestine was normal in appearance, but it was not examined. Postoperatively suction was continued, fluids were given intravenously and the patient did well. On the fifth postoperative day after suction had been discontinued, vomiting recurred. For another ten days suction relieved the vomiting. The abdomen remained flat and she had no pain. At that time a flat film of the abdomen showed dilated loops of small intestine with fluid levels. No stone shadows were seen in the intestine. A diagnosis was made of ileus due to adhesions or to a gallstone.

Exploration March 27, sixteen days after her first operation, showed a small quantity of serosanguinous fluid; the ileum was moderately dilated and a loop of ileum about three feet proximal to the cecum was adherent to the mesentery of the ascending colon. Several feet of the ileum were examined but no stone was found. The adhesions were freed and omentum was wrapped about the inflamed ileum. Two days later she developed a severe bilateral parotid inflammation which improved promptly under penicillin therapy. On the fifth day after her second operation the patient was improved and the abdomen was flat. Two days later vomiting developed and pain and distention recurred; four days later she was able to retain food and her bowels were moving but she had occasional colicky abdominal pain. On the eleventh day she had colicky pain, vomiting and loud peristalsis. Some tenderness was present. Three days later she had severe

pain and a chill with fever to 103 F. Sudden cyanosis and circulatory collapse developed, resulting in death about five weeks after admission.

At autopsy extensive adhesions were present in the gallbladder area. The peritoneal cavity contained fibrinopurulent exudate. The loops of ileum were dilated and adherent to each other by fibrinous exudate; some loops showed early gangrene. A faceted gallstone the size of a golf ball, not incarcerated, was found in a dilated loop of ileum. No second stone was found.

Clinically this patient had evidence of high intestinal obstruction. The local inflammation and compression of the duodenal area by the fistula appeared to produce obstruction. However, the finding of a cholecysto-enteric fistula was an indication for a thorough search of the stomach and intestine for a stone. Had this been done or had a more thorough search been made at the second operation, a fatality might have been avoided. The very large stone and the narrow scarred fistula indicated that the stone must have been in the intestine for a long period of time before obstruction developed.

Case 5

An obese female, aged 83, became acutely ill Jan. 25, 1947. She complained of colicky abdominal pain and persistent vomiting. One hypodermic of morphine had been given with only partial relief. Her past history showed chronic gallbladder disease with an acute attack in 1941 with right upper quadrant pain and tenderness. She had suffered with severe asthma for several years.

On admission January 26 examination showed obesity, dehydration and emphysema. Her temperature was 102 F. and pulse 110 with a leukocyte count of 22,000. Moderate tenderness and distention were present throughout the abdomen. Little tenderness was present in the gallbladder area. From January 26 to 30 she was treated by gastric suction and intravenous fluids and an occasional dose of morphine was required. When seen by the author on February 1 the abdomen showed moderate distention and tenderness, and her condition was poor. A diagnosis of gallstone ileus was made. Exploration on the eighth day after onset showed serofibrinous exudate and dilated but viable loops of ileum. A large gallstone was found freely movable in the ileum about ten inches from the cecum. The gallbladder was contracted, and dense adhesions were present between the gallbladder and the duodenum. No stones were felt in the gallbladder. The stone was removed through a longitudinal incision which was closed transversely. The entire small intes-

tine was examined and a second stone was not found.

Postoperatively the patient improved for five days, but febrile periods with a fever to 103 F. were present. Frequent liquid stools were expelled. On the seventh postoperative day a profuse watery drainage from the wound developed, and the patient died two days later.

A prompt diagnosis and early surgical intervention would probably have resulted in a favorable outcome. It was first thought that the patient had an acute gallbladder attack with ileus which was responsible for her condition. Early x-ray studies might have thrown light on the case.

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A REVIEW OF THE MENINGITIS CASES SEEN IN THE RAYMOND BLANK MEMORIAL HOSPITAL DURING THE YEARS 1945 AND 1946

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During the period of 1945 and 1946, a total of 27 cases of meningitis of various types were diagnosed and treated in the Raymond Blank Memorial Hospital, and the subject of this paper is a report on these cases.

In the review of any disease from case records one must, of course, select in advance those details of the disease which are of particular interest and value to the investigator and to the reader. Therefore, in preparing this review, we have selected the following topics for our investigation: (1) types of meningitis; (2) complications and mortality; (3) seasonal incidence; (4) laboratory aids; (5) duration of illness; and (6) treatment.

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Types of Meningitis

CHART I

Meningococcic	9
Probable Meningococcic	4
Pneumococcic	3
H. Influenzae	3
Questionable H. Influenzae.....	1
Miscellaneous	
Aerobacter Aerogenes	1
Traumatic	1
Mumps	1
Unknown	4
TOTAL	27

In classifying the various types of meningitis encountered, one had to rely on laboratory findings of the spinal fluids, e.g. cell count, differential, protein, chlorides and sugar, as well as the smears and cultures done. As will be brought out later, most diagnoses were made by the morphologic and staining characteristics of the organisms found in the spinal fluid as cultures were rarely positive. However, no diagnosis was made from laboratory results alone to the exclusion of clinical findings.

As will be seen in chart I, there were 9 cases of meningococcic meningitis (cases 1, 3, 5, 6, 7, 15, 19, 22, and 26). These are so classified because either the smears, cultures or both were positive for meningococcic organisms. Four cases of probable meningococcic meningitis (cases 4, 18, 22, and 25) are so classified because no organism was recovered either in smears or cultures, but the clinical course and other spinal fluid findings were highly suggestive of this type.

Pneumococcic meningitis (cases 16, 17 and 27) comprised 3 of the total number of cases and were proved by recovering the organism from spinal fluid cultures in 2, and by identifying the organism in the stained smear of the spinal fluid in the third case. The Hemophilus influenzae organism was responsible for 3 fairly definite cases (cases 11, 13 and 14) and 1 questionable type of meningitis (case 2). The former were substantiated by finding gram-negative rods on smears which showed capsular swelling to the type specific serum, whereas the latter showed gram-negative rods but no further identification is reported as positive.

Seven cases comprise a miscellaneous group which includes 1 case of meningitis due to aerobacter aerogenes (case 8) cultured from the spinal fluid. These organisms showed no capsular swelling with anti-H. influenzae type B serum. Other spinal fluid findings on this particular infant were 8,000 white blood cells of which 66 per cent were polymorphonuclears and 14 per cent lymphocytes. Spinal fluid sugar was too low to read. Aerobacter aerogenes was recovered from a catheterized specimen of urine. This pa-

tient died seven days after the diagnosis was made and an autopsy was performed. The anatomic diagnoses were (1) acute meningitis with inflammatory obstruction of the foramina of Luschka and Magendie with early hydrocephalus, and (2) incomplete left double ureter with associated subacute pyelonephritis bilaterally and mild subacute cystitis.

The second of the miscellaneous group (case 9) is a meningitis following trauma to the nose. No x-ray evidence of fracture was evident. The spinal fluid showed 151 cells of which 92 per cent were polymorphonuclears and 8 per cent were lymphocytes. Spinal fluid culture was negative. This patient recovered uneventfully on penicillin therapy alone and was discharged after eleven hospital days.

The third case was diagnosed mumps meningitis (case 12). There was a history of exposure to mumps two and a half weeks before developing meningeal symptoms. The spinal fluid showed 500 cells, all of which were lymphocytes. Spinal fluid sugar was 36 mg. per cent; total protein equalled 40 mg. per cent and the spinal fluid Wassermann was negative. Smears and cultures were negative.

The last 4 of this group are classified as unknown types as no definite proof of their etiology

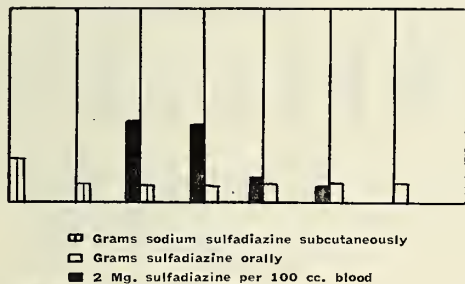
ganisms from the spinal fluid was obtained. The autopsy findings were those of an acute bacterial endocarditis, pulmonary embolism, pulmonary infarction (septic, bilateral), miliary abscesses of the heart and the cerebellum, and acute meningitis. Smears of the heart valves and of a lung abscess showed streptococci.

The next of this group (case 21) was a meningitis secondary to a chronic otitis media. Smears and cultures of the spinal fluid were repeatedly negative. Recovery was complete in seventeen days.

The last case (case 24), an eight month old male, developed meningitis one week following a smallpox vaccination. His fever was high, the neck and back were rigid and spinal fluid showed 900 cells (94 per cent polymorphonuclears), normal sugar, elevated protein (100 mg. per cent), and normal chlorides; smear and culture were negative. Recovery was uneventful and he was discharged from the hospital after ten days. There may be some doubt in this case whether or not the diagnosis of meningitis is correct. It could well be a postvaccinal encephalitis, but several factors discourage this diagnosis. First, the child was but eight months old at the time of this illness, and most instances of encephalitis following vaccination for smallpox occur in older children past the age of 3 years. Second, a postvaccinal encephalitis most often occurs at the height of a vaccinia reaction; this child became ill four days after the vaccination was given. No note was made in the patient's record regarding the vaccination reaction. Third, in encephalitis one ordinarily expects to find a preponderance of lymphocytes in the spinal fluid, but the fluid in this infant always showed a marked preponderance of polymorphonuclears. However, the spinal fluid sugar was 62.5 mg. per cent and one would expect a bacterial type of meningitis to have a lowered spinal fluid sugar. The illness was short and recovery was nearly complete on penicillin alone. Sulfadiazine was not given until the fifth hospital day, and then in doses of $1\frac{1}{2}$ grains per pound of body weight during a twenty-four hour period for seven and a half days.

GRAPH 1

Patient—T. C.; age, $2\frac{1}{2}$ years; male; weight, 45 pounds.



could be determined. The first (case 10) is that of a 2 year old girl who developed meningeal irritation associated with vomiting and low-grade fever. Spinal fluid revealed normal sugar, protein and chlorides, the highest cell count being 1,591 with 93 per cent polymorphonuclears. No organism was identified from smears or cultures, and the Wassermann was negative. Neurologists were consulted with the possibility of brain tumor or abscess having to be ruled out. Evidence to substantiate this diagnosis was lacking. The child recovered without complications in twenty-one days.

The second unknown meningitis died four hours after admission (case 20). No growth of or-

Complications and Mortality

Complications in this total group of cases will be classified according to the type of meningitis. In the meningococcic type, there were 2 deaths of the total of 9 cases, and 1 death of the total of 4 cases of probable meningococcic meningitis. Grouping these two types together would give a mortality rate of 3 deaths in 13 cases, or 23.07 per cent.

There were no complications in the pneumococcal types of meningitis; recovery was complete in all cases at the time of discharge. No follow-up facility is available for long-range study, however.

Of the *H. influenzae* type of meningitis, out of a total of 3 diagnosed and 1 probable case, there was 1 death and no other complications. The case diagnosed *aerobacter aerogenes* died, as mentioned previously, and there was 1 death in the group of 4 unknown types. Other types of complications were minimal, e.g., of 2 cases of meningococcal meningitis 1 developed otitis media and another a finger abscess. A probable meningococcal meningitis developed a bilateral otitis media.

The over-all death rate in the total presented is 6 of 27 cases or 22.3 per cent. A further analysis of these deaths is as follows:

CHART 2
Meningitis Mortality

Case	Age	Severity	Type	Time of survival following admission or diagnosis
6	2 3/12	IV	Meningococcal	7 hrs. 45 min.
8	3 weeks	III	<i>Aerobacter aerogenes</i>	6 days
14	1 6/12	III	<i>H. Influenzae</i>	6 hours
20	7 years	IV	Unknown	4 hours
22	4 years	IV	Meningococcal	1 hour
25	8/12	III	Waterhouse-Friderichsen syndrome, probably meningococcal	8 hours

Grading the severity of these cases clinically from a mild toxemia (grade I) to a severe toxic condition with coma (grade IV), we find half of those who died were in extremis on admission and the remainder were all grade III in severity. With the exception of case 8 all who died did so within a few hours following admission.

Seasonal Incidence

There was no known epidemic of meningococcal meningitis during the years this study covers, and no great number of cases occurred in any one month. Chart III is designed to graphically represent the number of specific types of meningitis and the months in which they occurred. The preponderance is obviously in the winter months although 2 cases occurred in midsummer.

Laboratory Aids

We have been quite disturbed in this respect in that so many of our cultures of spinal fluids have been repeatedly negative even when the organism had been demonstrated on the direct smear. Of those 9 cases of meningococcal meningitis having positive direct smears, only 1 showed a positive culture. There were the 4 probable meningococcal types which showed neither the smear nor culture of spinal fluid to be positive.

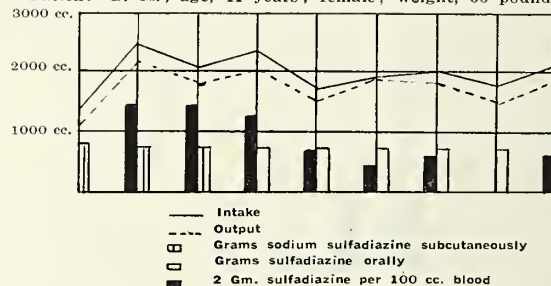
Actually then, out of a total of 13 cases of epidemic meningitis, the laboratory aided in the diagnosis of 9 and furnished indisputable evidence in but 1. Two of the 3 pneumococcal types had positive spinal fluid cultures. None of the three *H. influenzae* meningitis cases had positive cultures of the spinal fluid. These results are no doubt the end result of many factors influencing the ability of the organism to grow under laboratory condition. In the past few months, the laboratory has added the living chick embryo to its list of culture media in the hope of obtaining a greater per cent of positive cultures. Trials have been too few for adequately judging their efficacy.

Duration of the Illness

Those cases of meningococcal meningitis and probable meningococcal meningitis living (10 cases) represent a combined total of one hundred seventy-six hospital days. This averages 17.6 days per patient. One case of pneumococcal meningitis was transferred to another hospital after thirty-three days but the other 2 spent seventeen and twenty-four days in the hospital respectively. Of the two living *H. influenzae* types 1 remained in the hospital thirty-one days and the other nine days.

GRAPH 2

Patient—B. M.; age, 11 years; female; weight, 55 pounds.



Treatment

Since the Raymond Blank Memorial Hospital is a private hospital, all of the patients have a private physician in charge of their treatment. As individual physicians, their ideas differ in some respects in treating purulent meningitis. Therefore, there has been no hard and fast routine followed. However, since intensive sulfonamide therapy has been used here, a more or less broad outline of treatment has evolved and this will be what is presented here. This may vary in some minor details from that used by the individual members of the staff, but in general it is the plan.

The specific measures of treatment will be outlined in detail later but first will be given the measures for the general treatment and support of the patient.

Correction of dehydration and disturbances of acid-base balance is usually started immediately. The CO_2 combining power of the blood is taken, and suitable fluids and electrolytes are started intravenously. This not only hydrates the patient and corrects any disturbance of blood chemistry but assures an adequate urinary output and makes it much easier to keep the urine alkaline. This becomes quite important when the sulfonamides are started.

Convulsions are kept under control by sedatives or by what other measures are indicated. If cyanosis or apnea are present, continuous oxygen is administered to the patient, being continued as long as the cyanosis persists. In the presence of anemia or hypoproteinemia, blood or plasma transfusions are given. If the patient is unable to take nourishment by mouth due to coma or vomiting, his nutrition is maintained by the parenteral administration of fluids, electrolytes, glucose and amigen. Adequate urinary excretion is sought in each patient, and the pH of the urine is recorded each time he voids. The urine is maintained in an alkaline state if possible. White blood counts are done every two days.

We have had 8 patients treated with serum in the last two years. Of these, 2 were *H. influenzae*, type B, 1 pneumococcus, type 2, and 5 were with meningococcus antitoxin. All but 1 patient given the serum made favorable responses, but all

coccic meningitis, both of which were in extremis on admission and died within seven and eight hours after admission. In 1 of these, gross hemorrhages in the adrenals were demonstrated at autopsy. Meningococcic antitoxin was given to 1 of the patients as additional therapy and sulfadiazine given to the other. One death was due to *H. influenzae* type B. This patient received sulfadiazine in addition but no serum was given. She died within nine hours after admission. One patient died with aerobacter aerogenes meningitis. This patient was treated intensively with sulfonamides and penicillin for seven days but made no response and died. One patient died with an unclassified meningitis four hours after admission. Autopsy findings revealed a purulent meningitis and various septic emboli as previously described.

Of the 23 patients treated with penicillin, 4 were *H. influenzae* type B, 3 were pneumococcus, 8 were meningococcic meningitis, 4 were probable meningococcus, 1 was aerobacter aerogenes and the remaining 3 were unclassified.

Twenty-six patients were treated with sulfonamides. Only 3 were treated with sulfonamides alone. The remainder received penicillin or serum or additional treatment, and 4 patients received both penicillin and serum in addition.

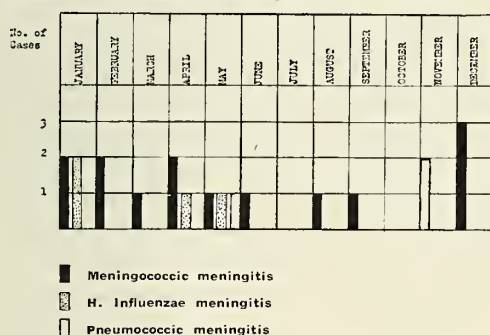
There were 5 deaths in patients receiving sulfonamide therapy. These have been described under the penicillin therapy as they all received penicillin in addition to the sulfonamides. One patient died without receiving either penicillin, sulfa or serum. This patient was admitted in a moribund state and died within an hour of admission.

Two years ago no standard routine of procedure was followed in giving sulfonamide therapy, but toward the latter half of the first year, a routine treatment was set up. During the past year this routine has followed more or less closely that of Dr. Alexis Hartmann. In the last year we have treated 13 cases of meningitis and have had 3 deaths. One died within an hour after admission, another within four hours and the other within eight hours after admission. Two had meningococcemia with petechiae and purpura, and 1 of these had gross hemorrhages into the adrenals demonstrated at autopsy. The other patient had an unclassified meningitis, but at autopsy a purulent meningitis and embolic phenomena were seen as described previously.

The routine followed at the present time is:

1. As soon as the physical examination and laboratory procedures are completed, a lumbar puncture is done. If the fluid is turbid, penicillin is injected intrathecally. We use a solution con-

CHART 3
Seasonal Incidence of Meningitis for 1945 and 1946



were given penicillin or sulfonamides in addition. One patient died with meningococcic meningitis after seven hours in the hospital.

Twenty-three patients were given penicillin. In only 1 patient was the drug given alone. This was an unidentified type of meningitis following trauma to the nose. The patient made a satisfactory response to treatment and was discharged after eleven hospital days. The remaining 22 patients received sulfonamides or serum and in 4 patients both sulfonamides and serum were given. Five of these patients died. Two were meningo-

taining 1,000 units per cc. and replace the amount of spinal fluid taken with the equal volume of this solution. In addition, penicillin is given intramuscularly 20,000 or 30,000 units every three hours.

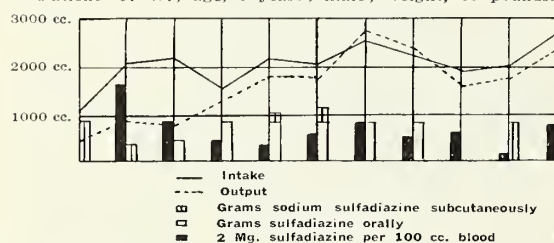
2. Proper fluid and electrolyte replacement is started. The type of fluid and electrolyte depends upon the findings of the blood chemistry and is usually given intravenously.

3. The pH of the urine is recorded each time the patient voids, and as soon as the pH approaches 7.0, sulfadiazine is given subcutaneously in the following doses: the initial dose is 0.3 gm. sodium sulfadiazine per kilogram of body weight given in a 0.5 to 1.0 per cent solution subcutaneously in a period of eight hours. This is given in lactate-Ringer's solution of which the pH has been adjusted, using steril phenol red as an indicator. The second eight hours 0.2 gm. per kilogram of body weight is given of the above solution and the third eight hours 0.1 gm. per kilogram is given.

A sulfa blood level taken at this time usually gives a reading of 20 to 30 mg. per 100 cc. of blood. This blood level is maintained if possible at this level until the patient has been afebrile two days, after which the dosage of sulfa is reduced to 0.2 gm. per kilogram per day and this dose maintained for two days. If the patient is still afebrile, the dose is reduced to 0.1 gm. per kilogram of body weight for two days and at the end of this time, if he is still afebrile, the drug is discontinued.

GRAPH 3

Patient—J. W.; age, 6 years; male; weight, 60 pounds.



4. To maintain blood levels of this height, it is extremely important that the fluid intake of the patient is adequate and there is a good output of urine. The pH of the urine is recorded each time the patient voids and the urine is kept alkaline by giving the patient 30 cc. of M/6 sodium lactate per kilogram subcutaneously or 5 cc. of M. sodium lactate per kilogram orally per day.

5. After the organism has been identified in the spinal fluid, the therapy may be modified somewhat. If the meningococcus is found, the intensive sulfa therapy may be relaxed some; but if

the pneumococcus or H. influenzae is found, the intensive therapy is continued and the high blood sulfa levels maintained. Furthermore, we feel that this initial high blood sulfa level is important in preventing the development of resistance to sulfonamides by the causative organism, the occurrence of which would add to the difficulty of subsequent treatment. If the H. influenzae organism is found, we think the procedure followed by Dr. Hattie Alexander is wise to follow—namely: streptomycin alone in mild or moderately severe cases; streptomycin plus sulfadiazine in severe types other than B; streptomycin, sulfadiazine and rabbit serum in severe cases of type B.

We have used the sulfadiazine—sulfathiazole mixture described by Lehr, Slobody and Greenberg in only a few cases, but in these cases there was a good response to treatment, the blood levels were easily maintained, and there was no hematuria. We think the treatment with this mixture is well worthy of trial.

After the first forty-eight hours, if the patient has made a satisfactory response and is no longer vomiting, the sulfa may be given by mouth. However, we have found it extremely difficult to maintain high sulfa levels by giving the drug in this manner. Graph I shows a comparison of the sulfa levels obtained in giving sodium sulfadiazine subcutaneously and in giving the same dose orally.

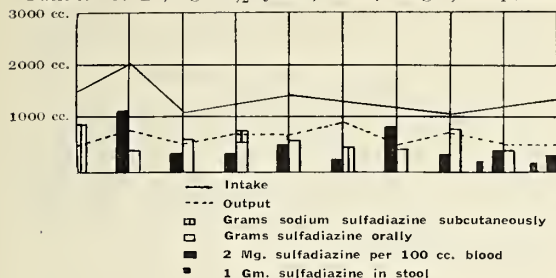
Thinking that increased urinary excretion might play some part in this discrepancy, 2 patients were charted in graphs II and III in which the subcutaneous and oral sulfa were recorded along with the sulfa blood levels, the fluid intake, and the urinary excretion. In graph II, there is no appreciable influence of excretion or the sulfa blood level. In graph III the urinary secretion has some influence on the sulfa blood level, but there is still a great difference in the levels obtained by subcutaneous and oral route.

In the patient represented in graph IV it was noted that while the patient was taking sulfa subcutaneously the stools were normal in appearance, but when sulfa was given by mouth the stools were more numerous and white streaks could be seen in the fecal matter. A sulfa determination was done on the stools on two occasions, and it was found that 1.8 gm. and 1.5 gm. were excreted daily on these occasions. This represented over 25 per cent of the sulfa taken by mouth.

Therefore, with this in mind, if the sulfa dosage is to be continued by mouth, a careful check on the sulfa blood level should be done; otherwise, a person can be badly fooled in thinking that adequate sulfa levels can be maintained by this route.

GRAPH 4

Patient—O. B.; age 3½ years; male; weight, 30 pounds.



Discussion

During the past year routine planned intensive sulfonamide therapy has been used in the treatment of purulent meningitis. Sulfa blood levels have been done frequently to check the intensity of treatment, and comparisons of sulfa levels have been made on patients receiving the drug orally and subcutaneously. We have found a striking difference in the blood levels obtained by the two routes and believe that this discrepancy is due, at least in part, to unabsorbed sulfa being excreted in the stools. We believe that if the oral route is selected to administer sulfonamides in meningitis, frequent sulfa blood levels should be done to check the adequacy of treatment.

We have had hematuria appear frequently during the course of intensive sulfonamide therapy, but no serious urinary difficulties have resulted and the condition has always promptly disappeared after adequate fluids and alkalis have been given to increase the urinary flow and increase the pH of the urine. Hematuria occurs much less frequently if the urine is kept alkaline.

We think that the intensive sulfonamide therapy has effectively reduced the mortality of purulent meningitis. Of the 13 cases treated here in the last year three died and these were considered as hopeless cases. One child died within four hours of admission with a purulent meningitis secondary to septic emboli, arising from an acute bacterial endocarditis, and two died from a meningococemia one and eight hours after admission. Both had extensive petechiae and purpura. In one of these, gross hemorrhages were demonstrated at autopsy. Both were probably examples of the Waterhouse-Friderichsen syndrome, death being due to either the extreme toxemia, shock from hemorrhages into the adrenals, or both. Since the mortality in Waterhouse-Friderichsen syndrome is so high, we think that in order to save these children, additional therapy is indicated. This would be, in addition to the therapy outlined above, the intravenous administration of meningococcus antitoxin and adrenal cortical extract in appropriate dosages.

Summary

There were 27 cases of meningitis treated during the years of 1945 and 1946 at the Raymond Blank Memorial Hospital. The types of meningitis included 9 cases of meningococcic, 4 cases of probable meningococcic, 3 cases of pneumococcic, 2 cases of *H. influenzae*, 2 cases of questionable *H. influenzae*, and 7 cases in a miscellaneous group, 4 of which were of unknown type.

Complications were minimal and the total mortality was 22.30 per cent. The preponderance of cases of meningitis occurred during the winter months. Culture of the spinal fluid gave unsatisfactory results in the majority of cases.

A summary of the treatment given the various cases of purulent meningitis has been made and an outline made of the procedures followed in giving intensive sulfonamide therapy. There appears to be an improvement in the mortality of the patients treated with intensive sulfonamide therapy. Waterhouse-Friderichsen syndrome has been discussed and additional therapy with meningococcic antitoxin and adrenal cortical extract has been outlined.

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IMPROVED TECHNIC OF STERNAL PUNCTURE

Richard F. Birge, M.D., Des Moines

Sternal puncture is an always available, simple procedure often omitted from the diagnostic armamentarium of physicians. Since it is conceded to be a safe procedure, diagnosticians should employ the method without hesitation whenever it is indicated. It is essential, however, that puncture be performed with reasonable care and skill, and that aspirated hematopoietic material be utilized to best advantage for correct interpretation.

Site of Puncture

Many hematologists with extensive experience report that they have never observed a serious accident complicating sternal puncture. The author's moderate experience is similar. Neverthe-

Portion of paper presented before the Medical Library Club, Des Moines, Iowa, Oct. 8, 1947.
From the Department of Pathology, Iowa Methodist Hospital, Des Moines, Iowa.

less, one proved case and one probable case of cardiac tamponade following sternal puncture have been observed. A safe site for puncture should, therefore, be selected.

Although Arinkin, who introduced sternal puncture in 1929, employed the manubrium, Scott¹ objects to its use, citing Pässler as stating that aplasia occurs in it earlier than in the body, and Lissitzyn and Arieff as stating that its spongiosa is often thin centrally. Most hematologists recommend that the sternum be entered in its midline at the level of the second costal interspace "because of the uniformity of the anatomy of this particular area."² Occasional writers believe that it is all right to go into the sternum at the level of the third or fourth costal interspace¹ or elsewhere.

However, in the examination of many sternums at autopsy it has seemed to me that the manubrium is a most satisfactory site for sternal puncture. It is broad so that one could hardly fail to obtain marrow if he should deviate slightly from the midline. It is sometimes rather thin centrally, but the marrow space is almost always adequately thick to permit easy entrance.

I have also thrust needles directly through the sternums of many cadavers, entering the midline at the level of the first costal interspace, the second costal interspace, and the third costal interspace. Seldom will a needle, thrust through the sternum, enter the pericardial sac if the manubrium is employed. Behind the manubrium in most individuals there is a good amount of either thymic or adipose tissue which will protect the ascending aorta from the sternal needle should it perforate the inner table. However, if a needle is directed upwards, obliquely, it is possible to perforate the left innominate vein.

On the other hand, the pericardium, the root of the ascending aorta, the right auricle and the right ventricle lie just behind the body of the sternum. At the levels of the second and third costal interspaces one invariably enters the pericardial sac when he thrusts a needle through the sternum. In many instances a needle, piercing the body of the sternum, will strike the root of the aorta or the right ventricle, but sometimes it will enter the right auricle, especially if the auricle is dilated. This thin-walled appendage of the right atrium would almost certainly continue to ooze blood rapidly if a large sternal puncture needle should tear through its wall during life. Such occurrence may account for rare cases of cardiac tamponade reported by word of mouth and through the medium of the literature, although in the case reported by Scherer and Howe³

the needle entered but did not penetrate the wall of the right ventricle, striking no large vessel. Autopsy was not permitted in the case of Meyer and Halpern,⁴ but the symptomatology was consistent with cardiac tamponade.

It is therefore recommended, principally for purposes of safety, that sternal puncture be performed by entrance into the midline of the manubrium, preferably a little below its center, using a vertical approach.

Technic of Puncture

Frequently, it will be advisable that the hematologist, who will be obliged to interpret the resultant marrow preparations, either perform all punctures himself or supervise their performance. At any rate, a uniform technic should be followed by house and staff physicians in each institution in order to promote safety and obtain comparable results.

Sternal puncture may be done on ambulatory patients in the clinic, office or home. Most physicians should be capable of carrying out the procedure. Probably all interns should be taught to do sternal punctures.

Nevertheless, it is essential that the novice first learn the anatomy of the sternum and subjacent structures, and then perfect his technic by practicing on cadavers. Moreover, he must submit suitable preparations to the hematologist or his efforts will be futile. He must either learn to make good smears of blood and marrow, or have available at the time of puncture a competent technician to prepare the smears for him.

One should use a strong short needle of large caliber, preferably one especially designed for sternal puncture, equipped with a guard; its bevel should be short and sharp. The needle should not be pushed or forced into the sternum by direct pressure, or by hammering as suggested by one writer. Rather, one should use a drilling technic, accomplished by exertion of gentle pressure plus to and fro rotation. If this procedure is followed, it would not seem possible to penetrate the entire thickness of the sternum and produce cardiac tamponade or retrosternal hemorrhage.

Aspiration Biopsy of Marrow

Recently Schleicher² and Berman and Axelrod⁵ have reported that they employ rather complete survey methods for the study of material aspirated from the sternum. The methods involve preparation of direct smears, volumetric readings, smears of nucleated cell concentrates, touch imprints and histologic sections. They are very much worthwhile but seem rather complex for routine use by the clinical pathologist or clinical

hematologist, and will probably be reserved by most men for special cases and for research projects.

On the other hand, the simplest technic is to aspirate a very small amount of marrow and to prepare films at the bedside. This method is usually quite satisfactory, but it is insufficient. One needs, in addition, to employ a procedure which will demonstrate the architectural pattern and the degree of cellularity, of hyperplasia or of hypoplasia of the marrow. Formerly, trephine was thought to be necessary to obtain this information, but in 1941 Gordon⁶ called attention to the presence in aspirated marrow fluid of numerous tiny fragments of soft tissue. These "gross marrow units," which often measure 0.5 mm. or more in diameter, have been utilized by Gordon and others^{2, 7, 8, 5} in the preparation of histologic sections.

A modified, simple technic for preparation of smears and histologic sections of bone marrow follows:

The marrow cavity is entered and a drop of marrow is aspirated. The syringe is disconnected from the sternal needle, and the stilette is temporarily re-inserted. The drop of marrow is expressed onto a glass slide, and a technician prepares ten to fifteen smears.

The operator immediately withdraws the stilette and re-connects the syringe, rotating the needle and at the same time exerting suction until about 0.5 cc. of marrow mixed with blood is obtained. This material is immediately ejected onto the surface of a glass slide and soon begins to coagulate. The needle is then withdrawn, and the stilette is used to gently stir the clot as it forms, engaging the gross marrow units in its meshes. As soon as the clot is well formed it is placed in a suitable fixative and sectioned, using standard procedures for dehydration, paraffin embedding and staining.

Comment

By studying sections of gross marrow units in addition to smears, the hematologist or pathologist will find that he will be able to offer his interpretations with greater confidence than formerly. While smears afford the opportunity to study cytologic detail, the sections yield information concerning the structure of the bone marrow. One obtains a good general idea of the cellularity of marrow by observing the number of fat cells present in relation to the amount of marrow tissue. This visual estimation of cellularity of the marrow makes unnecessary the performance of other, admittedly interesting and desirable,

quantitative or volumetric studies. The relative number and distribution of megakaryocytes and of other constituents are also readily ascertained.

Indeed, at times marrow sections may yield information of diagnostic significance, not evident in marrow smears, according to several authorities.^{5, 8, 9} They have been able to diagnose tuberculosis, myeloma, Gaucher's disease, metastatic carcinoma and other conditions with facility on the basis of the study of sections of gross marrow units.

It is hoped that many busy pathologists and hematologists, who desire to accomplish good results as quickly and simply as possible, will adopt the method. There is little delay, for smears can be examined immediately, and excellent marrow sections can be prepared in a modern surgical pathology laboratory within twenty-four hours.

Summary

1. Accidental penetration of the body of the sternum, which overlies the pericardium and heart, may produce cardiac tamponade. Therefore, utilization of the manubrium for sternal puncture is recommended.

2. Tiny particles of marrow are contained in fluid aspirated from the sternum. These "gross marrow units" may be utilized as aspiration biopsy material according to a simple technic. Knowledge of the structure and cellularity of marrow, ascertained by study of histologic sections of the units, enhances one's interpretation of routine bone marrow smears.

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COLLEGE OF MEDICINE

State University of Iowa

**CLINICOPATHOLOGIC
CONFERENCE**

January 22, 1948

Summary of Clinical Record

A 69 year old male was first admitted to the Medical Service of the University Hospitals in April, 1941, at which time he complained of intermittent vomiting and dizziness for one year, and partial deafness for six months. At that time the physical examination was essentially negative except for a 50 per cent decrease in hearing in the left ear. The patient was given ammonium chloride and a low salt diet and discharged from the hospital.

The second admission to the hospital was late in 1943, at which time he complained of intermittent dizziness. One month before examination, while walking up a flight of steps, he suddenly fell over backwards but without suffering unconsciousness or serious injury. He was unable to explain this attack and said that he did not vomit or become dizzy. He was able to get up and walk without help and had no other complaints at that time. Several days later he noticed nausea and dizziness and was told, after an unknown period of time, that he had been "out of his head" for a week. The details of this episode were not available. Physical examination revealed the following positive signs: hearing air conduction 100/20; air conduction greater than bone conduction on the right but bone conduction greater than air conduction on the left; alternate motion rate of the hands 85%/100% and of the legs 85%/100%; biceps jerks 2+/2+; knee jerks 3 to 4+/2+; tendo achilles jerks 3+/2+; plantars 0/flexion. The patient was again given ammonium chloride with a low salt intake and, in addition, aminophyllin, gr. iii t. i. d.

In September, 1944, the patient was seen in the Department of Otolaryngology. Because of a fall in which the patient had broken several ribs, he had been hospitalized elsewhere during the summer of that year. He had continued having attacks of vertigo at irregular intervals. In March, 1945, the patient again entered the hospital with a history of another fall which he said resulted in a cut over his right eyebrow and generalized head trauma. He had been hospitalized for nineteen days before admission here at that time. In August, 1946, the patient was treated

for a furuncle of the nose in this hospital, but apparently nothing else unusual was noted.

On May 7, 1947, the patient was admitted to the University Hospitals for the last time. The history was obtained from his wife who stated that he had been in fairly good health until three weeks before admission when he suddenly became confused, disoriented and incontinent. At that time he was reported to have poor use of his left arm.

Physical examination revealed a well-developed, well-nourished white man who was disoriented and confused. The pupils were round and equal and reacted well to light and in accommodation. There was no evidence of any acute head trauma. The extraocular movements were of normal range and the optic fundi showed nothing unusual. There was no nystagmus. The remainder of the cranial nerves appeared normal bilaterally, although careful examination was impossible because of the patient's lack of cooperation. The cardiovascular system was normal. The walls of the abdomen were voluntarily tense and the solid organs were not palpable. The general use of the arms and legs appeared to be poor and there was increased tone of all four extremities. The reflexes were as follows: biceps jerks 2+/3+; knee jerks 2+/2+; tendo achilles jerks 2+/2+; plantars flex/occ extension. Rectal examination revealed a moderately large prostate which was smooth and firm but not hard.

A urine specimen contained 2+ albumin and a number of red cells. The blood Wassermann and Kline tests were negative. The spinal fluid was clear with a total protein of 48 mg. per 100 cc., and an initial pressure of 35 mm. of water. The Wassermann test on the spinal fluid was negative. The blood contained 10 gm. of hemoglobin per 100 cc., 4 million red cells per cu. mm., and 16,000 white cells. The erythrocyte sedimentation rate was 111 mm. in 60 minutes. The blood urea nitrogen was 27 mg. per 100 cc. and the blood creatinine was 1.8 mg. The serum protein totaled 7.6 gm. per 100 cc., the albumin was 3.9 gm. and the globulin 3.7 gm. The blood chloride was 550 mg. per 100 cc. and the carbon dioxide combining power was 44 volumes per 100 cc. X-ray examination of the chest revealed nothing unusual. An electrocardiogram showed a complete right typical bundle-branch block.

During his hospital stay the patient was given fluids orally and parenterally. On May 7, 1947, the administration of penicillin 50,000 units every three hours was started and on the next day the dose was changed to 100,000 units intramuscularly every three hours. The day before death

sodium sulfadiazine therapy was started in addition to the continued use of penicillin. The patient remained confused and disoriented. The rectal temperatures were moderately elevated during most of the patient's hospital stay. On May 16, 1947, the patient vomited a number of times, rapidly became comatose and died.

Clinical Diagnosis

Cerebral arteriosclerosis with cerebral vascular accident Meniere's disease.

Necropsy Finding

The immediate cause of death was pneumonia involving both lower lobes and the right middle lobe. There was also considerable collapse of pulmonary tissue and vascular congestion.

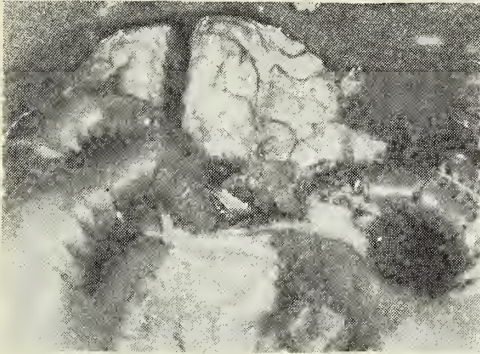


Fig. 1. Subdural hematoma. Note depression of right frontal lobe cortex.

The principal lesions were bilateral subdural hematomata with infection and abscess formation in the lesion on the right side (fig. 1). There was also acute purulent meningitis, most prominent over the hemispheres (fig. 2). *Escherichia coli* was cultured from this site. The entire brain was diffusely swollen. Both hematomata were large and covered most of the dorsolateral surface of the cerebral hemispheres. They had depressed the brain surface beneath them. The overlying dura was very thick and had the consistency of shoe leather (fig. 3). It showed extensive hyalinization. A membrane similar in composition separated the blood clots from the leptomeninges. The posterior portion of the hematoma on the left side had been partially organized. The contents of the hematoma on the right side were liquid and purulent. An incidental finding was prostatic hyperplasia with chronic prostatitis.

Two lesions are not readily accounted for. One of these was a small infarct in the medulla of the left kidney, and the other was cellulitis of the wall of the lower ileum. Presumably, both could be explained by bacteremia.

Necropsy Diagnosis

Bilateral subdural hematomata with infection and abscess formation in the right (E. Coli).

Acute purulent leptomeningitis.

Acute lobar pneumonia, right middle and lower lobes and left lower lobe.

Subacute cellulitis, wall of ileum.

Small infarct, left kidney.

Hyperplasia of prostate.

Clinical Discussion

Dr. C. H. Millikan (Neurology): We were hampered by lack of information in making a differential diagnosis. This man presented a history of a rather sudden onset of confusion, disorientation with mild left-sided focal signs and some fever. Neurosyphilis of any kind must be considered. It was eliminated from the diagnosis due to the fact that negative blood and spinal fluid serology was found, and there was no abnormal number of cells in the spinal fluid. A diagnosis of encephalitis was considered. Encephalitis can come on suddenly, does often produce fever, and it can produce focal signs. There were no convulsions. The deciding factor against the diagnosis of encephalitis was the fact that the spinal fluid showed no pleocytosis.

The diagnosis of an expanding intracranial mass (neoplasm) was considered. Neoplasm ordinarily gives a history of longer duration than three weeks as do most expanding intracranial masses. There was no evidence that this patient did have an increased intracranial tension. He did not have choked discs; spinal fluid pressure was not elevated. That, of course, can mean little in such an instance, but it was a factor mitigating against the diagnosis. Those facts together with the evidence that his focal signs were not increasing made us rule out the diagnosis of a brain neoplasm.

Considered also was the possibility of trauma and with the trauma a brain laceration, contusion, subdural or epidural hematoma. This man had had repeated falling episodes in the past, and it was possible for him to have sustained intracranial trauma. He had no headache and there was no history in the immediate past of a fall which had antedated this episode of confusion and disorientation. The diagnosis, intracranial trauma, was ultimately discarded.

Vascular accident to the brain was considered. The fact that this episode of disorientation and confusion, together with the left-sided signs, had come on suddenly were taken as indicative of a process which had occurred rapidly. Sudden onset is characteristic of intracranial vascular acci-

dents of any kind as a thrombosis or an embolus, a ruptured intracranial aneurysm or actual hemorrhage in the brain substance. His condition was not such that we thought of hemorrhage of the brain. He was not stuporous or comatose; he got around fairly well, and he was able to walk with some assistance. Diagnosis of intracranial aneurysm was discarded because of the absence of any free bleeding into the subarachnoid space.

Brain abscess was thoroughly considered. He did have fever, and the onset was sudden. He apparently had infection elsewhere in the body in the form of a nephritis or pyelonephritis with blood and albumin in the urine although there was no evidence of uremia. The fact that he had no more focal signs than he did, that the spinal fluid was negative for cells and that there was no demonstrable infection of the type which ordinarily precedes or produces the seeding of the brain with abscess formation were the three things which made us finally rule that out in the differential diagnosis. Because he didn't have headache, and because the onset of the whole affair had been extremely rapid, and the course to date had been that of intracranial vascular insult, the diagnosis of arteriosclerosis was again made and a diagnosis of a cerebral thrombosis was added.

Dr. E. D. Warner (Pathology): Anatomically this is a case of bilateral, subdural hematoma or what might be called chronic pachymeningitis hemorrhagica in the older terminology. These had been present for a long period of time, probably a number of months at least, since there were well developed neomembranes, not only over but under each of the hematomata. Finally, the one on the right became secondarily infected and spread to produce leptomeningitis beneath the infected subdural hematoma. Pneumonia was merely a terminal event.

Dr. Millikan: This general problem of subdural hematoma was called rather drastically to my attention by a similar episode in a patient who entered here in 1942 following what appeared to be a vascular accident to the brain. He was a 60 year old man who had hypertension and definite left-sided focal signs. He was followed for four days and seemed to be doing fairly well, following the course of events involved in an intracranial vascular accident. On his fifth hospital day, he unexpectedly died. Autopsy examination revealed bilateral subdural hematoma.

It is interesting, in attempting to learn where we made our mistakes, to try to find out how to diagnose this disorder, or at least think of it enough to send the patient to surgery. In ap-

proximately one hundred and five articles in the English literature that have been written about subdural hematoma during the last two decades, there are about one hundred and three articles which emphasize what the writers call the syndrome of subdural hematoma. That syndrome, they say, consists of the following: a history of accident (underlined); headache with changes in consciousness in the form of stupor; disorientation or confusion with or without focal signs; cranial nerve palsies; choked discs; elevated spinal fluid pressure. That then is the syndrome on which patients are sent to surgery, trephines done

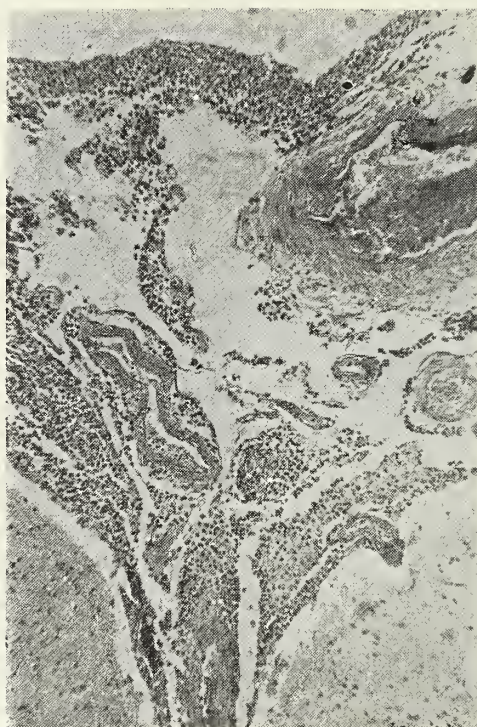


Fig. 2. Subarachnoid space: acute purulent meningitis.

and subdural hematoma accurately located and evacuated.

That sounds very simple. I made a little tabulation of some of the cases listed in the literature and out of 323 cases, 23 per cent had, according to the writer, no history of any injury to the head or elsewhere on the body. That, of course, is a comparable situation to some of our cases here. It would seem to me that it would have given the writers a chance to pause a bit before they underlined as an integral part of this clinical picture they described, trauma, as the first incident in the production of a subdural hematoma. There have been two writers, Monroe, I think in 1934, and Baker in 1938, who did emphasize the fact that subdural hematoma often occurs with-

out trauma or without at least the elicitation of trauma as part of the history of a patient. Those two people in their papers pleaded for a more accurate diagnosis of these cases ante mortem.

In our own series we have had 17 cases of subdural hematoma which were undiagnosed but were discovered at surgery. We have had 5 patients undiagnosed without surgery who came to autopsy in which subdural hematomas were found. Three of those were infants under five months of age who simply presented a picture of malnutrition and were feeding problems. No one, including the consultant, thought of the diagnosis of subdural hematoma. The other two patients on which the diagnosis was missed were the patient today and the one I mentioned a few minutes ago whom we saw in 1942.

If one is going to limit himself in diagnosis by making trauma an integral part of this affair and calling it a syndrome, then I think we are going to continue missing these cases. The very fact that 17 have not been properly diagnosed on our service, but were discovered in surgery, and were treated successfully, is adequate demonstration of the fact that there must be some other way at least to get the patient to surgery even possibly without an accurate diagnosis at the time the patient is first seen. The questions arise: How can that diagnosis be made? Can it be made on the basis of headache? choked discs? focal signs? perhaps some minimal trauma? or is there some other way that the diagnosis can be made?

These 37 cases that we have had during the last ten years do not fall into any exact pattern. Twenty-three of them had headaches, 7 had acute trauma which made them stuporous or unconscious so that they were unable to tell the examiner whether they had headaches or not. However, there were 6 patients who had no headache and who were able to give good enough histories so that such a symptom would have been elicitable. Headache cannot be depended upon. This patient denied headaches at all times. The wife who gave the history said that there had been no headache at any time during the last six months of his life. If choked discs are present, it means that we think there is increased intracranial pressure which should be investigated surgically.

There is no such thing as an exact syndrome of subdural hematoma. We must think in more general terms. When a patient comes into the hospital with some disease which is localizable to the intracranial structures and then follows a downhill course which is in itself evidence of a progressive disorder, I feel that that patient is then a candidate for ventriculography so that at

least we can rule out some removable or operable condition which may, of course, save the patient's life. In other words, a progressive intracerebral disease must be examined by direct vision and the pathologic diagnosis demonstrated by that means or else one is going to fall heir to the sort of thing that we did in this case, and miss a diagnosis in a patient amenable to surgery.

Dr. Russell Meyers (Neurosurgery): Chronic subdural hematoma is, from the standpoint of the surgeon, one of the most favorable of intracranial lesions. It is, therefore, a matter for serious mental stock-taking when a patient comes to the autopsy room with an undiagnosed subdural hematoma.

Viewed semantically, the present fatality is in my opinion directly ascribable to the language habits doctors are prone to employ. In this particular case the faulty language habit consisted of the notion that there is any such thing as a consistently reliable "syndrome" of intracranial disease. If physicians adopt deep-rooted convictions of this sort (as their teachers and textbooks so warmly invite them to do) they are destined to encounter repeated embarrassments of the sort presented today. I am privileged to talk objectively about the present case since I was not involved in it. This is not to say that I have not heretofore been implicated in similarly lamentable circumstances. It is evident, however, that much of what we do about all our problems, professional and otherwise, is determined in large measure by a host of language habits that are deeply rooted in our Indo-European language structure. These we unwittingly bring to the bedside, and it is these which determine how we are going to perceive the normal and aberrant phenomena which the patient exhibits, how we are going to order and classify our observations, how we are going to interpret them, and how we are going to minister to the patient.

Neurologic signs and symptoms are as they are because they arise from disturbances of neurophysiologic mechanisms. It is imperative to note that neurologic disturbances give rise to the same sort of manifestations irrespective of the etiologic agent. The hemiplegia is consequent upon arterial thrombosis, brain abscess, encephalitic outfall of cells, traumatic edema or apoplectic hemorrhage. The same may be said of dysphasia, hemianopsia, ataxia, and so forth through the range of neurologic signs and symptoms. The locus of the lesion may be revealed by the clinical neurologic inquiry; but its pathologic character and its etiology are in no sense as susceptible of identification. We may postulate the etiology in a par-

ticular patient; we may talk eruditely about "statistical probabilities"; but we are, in point of fact, confronted every moment with uncertainty and we ought to have our misgivings in the forefront of our consciousness.

A frequently encountered combination of anamnestic and physical findings, laboratory and other special studies is often taken as a "syndrome" indicative not only of etiology but of prognosis and therapy and sometimes, though not always, of pathology. Perhaps the best known of these in neurosurgical practice is that of epidural clot. Neurologic and surgical literature is replete with references to this and other alleged syndromes—

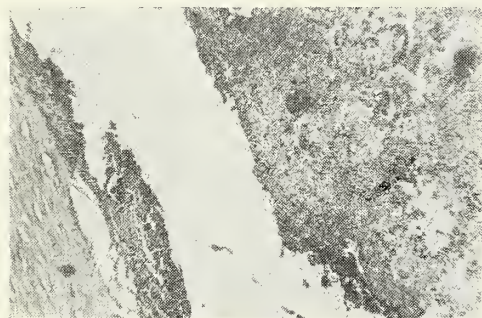


Fig. 3. Wall and contents of hematoma. Note dense fibrosis.

those of intracranial hypertension, subdural hematoma, et cetera. In the case presented this afternoon, the history, physical examination and other studies, including the ophthalmoscopy and the mensuration of spinal fluid pressure, led to a diagnosis of generalized cerebral arteriosclerosis with superimposed focal thromboses.

It is hardly necessary to mention what is now all too clearly evident—that the management of the case was posited upon a false confidence in the validity of this diagnosis. Because of the chronicity of the history, the absence of papilledema and the low spinal fluid pressure of 35 mm. of water (normal, 80-180 mm.) it was considered that a space occupying lesion was probably not present. So strongly are language habits of this sort established in us that we find great difficulty divesting them of the pontifical significance assigned to them by teachers and textbooks. An additional evidence of the malevolent influence of certain of our language habits upon our bedside behavior may be recognized in the failure to consider in this case that a second pathologic process might have been superimposed upon whatever process was being manifested in 1941. Although the history indicated that the patient had had several falls, no evidence was adduced to suggest that he might have sustained

a craniocerebral trauma. Neither the history nor the physical examination was positive for marks of violence on the face or scalp.

In retrospect, we may now recognize that this negative evidence, implicit in its character rather than explicit, impelled the diagnostician away from consideration of a traumatic lesion as irresistably as the negative pole of a magnet repels an electro-negatively charged particle. *The absence of marks of violence on the face or scalp should in no way dissuade the physician from giving consideration of a traumatic lesion in differential diagnosis.* Similarly, experiments which I have described at a previous Clinicopathologic Conference provide convincing evidence that the mensuration of cerebrospinal fluid pressure affords no reliable index as to the presence of an intracranial pathologic process or its nature. The same may be said of other neurologic signs and symptoms—papilledema, headache, pupillary disparities, conjugate deviation, nausea, vomiting, et cetera—particularly when these manifestations are absent.

Aside from the important fact that neurologic signs and symptoms bespeak disturbances of neurophysiologic mechanisms and not pathology and etiology, there is another very excellent reason why the traditionally described syndromes are not to be complacently relied upon in traumatic conditions: multiple rather than pure cerebral lesions are the rule. A physical violence delivered to the head is very much more likely to produce a combination of concussion, laceration, contusion, subpial, subarachnoid and intracerebral petechial hemorrhages, edema, and intracellular derangement than it is to produce a single lesion. This comment holds with equal force in respect of certain other lesions in relation to which clinical syndromes have been described, namely, epidural, subdural and intracerebral clots. If our contentions are correct, and I warmly believe they are, it is evident that the "syndrome" of a pure lesion will be very considerably masked by the presence of concomitant lesions. Confidence engendered by one's mastery of textbook syndromes is without scientific warrant and is charged with danger. A philosophy of "clinical agnosticism" is likely to prove of far more value to our patients and ourselves than false confidence in clinical rules of thumb. For when one is agnostically oriented in the sense that he is not overimpressed with his repertoire of language maps, he is likely to scrutinize any territory he may be traveling with greater care than if he starts with the assumption that his map is a reliable counterpart of the territory.

The clinician so oriented will be much less concerned with his own diagnostic function as a necessary preliminary to proper management of his cases than he will be with the goal of seeing to it that patients who are not responding to the already instituted therapeutic measures are given the benefit of every additional inquiry that can be marshalled in their behalf. He will earnestly seek to make available to every patient the empirical, nonspecific measures that may be relevant to successful management and if, in addition, he can institute specific measures, so much the better. When failure nevertheless befalls his endeavors, he will wish to see to it that as few patients as possible come to the autopsy table with surgically amenable lesions and, similarly, that as few as possible are subjected to unnecessary explorations.

Applied to the problem of intracranial disease, this broad formulation indicates that when within a period of observation the patient manifests an unexplained loss of ground or a failure to respond to the therapeutic measures already in process, it is incumbent upon the clinician to question whether effective therapy is being employed. He is obliged to answer with some degree of reliability beyond personal impression whether or not the patient harbors a surgically amenable lesion. Fortunately, this question can be promptly settled in the vast majority of instances by carrying out ventriculography. This is a relatively innocuous procedure and, except for patients in preagonal states, carries with it no serious contraindications. Burr holes are made over the right and left parietal bosses under local anesthesia. Approximately 80 per cent of subdural hematomas will be demonstrable by direct inspection through burr holes so placed.

Bilateral hematomas occur in varying percentages in the series of different investigators, ranging from 15 to 18 per cent to as much as 60 per cent. If no clot is encountered in the extra- or subdural spaces, it is incumbent upon the surgeon to introduce air into the ventricular system and to take ventriculograms. If no shift or distortion of the ventricular system is demonstrable it is highly likely that the patient does not harbor a surgically amenable lesion; if, on the other hand, a shift or distortion of the ventricular system presents, the surgeon proceeds to perform a craniotomy and explore for epidural, subdural and/or intracerebral lesions. His procedure from this point on will naturally depend upon the lesions encountered.

The institution of the procedure here outlined would undoubtedly have disclosed both the sub-

dural hematomas that were disclosed at the post-mortem examination of the present case. In brief summary, then, I would like to counsel you against the pernicious semantic habit of reposing unwarranted reliance in clinical neurologic syndromes. Agnosticism is a far healthier philosophy, literally and figuratively.

Dr. George Albright, Iowa City: Why were the 17 out of 23 patients sent to surgery?

Dr. Millikan: They were called brain tumors.

Dr. Warner: What do you think, Dr. Meyers, of the possibility of his subdural hematomata, at least one of them, dating back six years?

Dr. Meyers: Subdural hematomas have been described existing, or thought to have existed for periods even up to ten years. They are uncommon, but they do occur. I am inclined, however, in this particular case not to regard these subdural hematomas, both of which were partly liquefied, as being of that age. Ordinarily when one encounters a subdural hematoma as old as three to six years, it is so well organized that it looks for all the world like a piece of liver when you slice it. It doesn't have the blackish semi-fluid portion of clot with a circumferential organization that we encountered in this particular case. So I will simply answer the question by saying that people may carry subdural hematomata and not get into trouble with them for many, many years, but that in this particular case I think that was not the circumstance.

CORRECTION

The February, 1948, issue of the JOURNAL OF THE IOWA STATE MEDICAL SOCIETY carried, on page 62, a comment by Dr. R. M. Featherstone concerning the Clinicopathologic Conference case which read: "We do not think that the arsenic itself in poisoning ties up naturally occurring sulfhydryl groups." It should have read: "We think that the arsenic itself in poisoning ties up naturally occurring sulfhydryl groups."

DES MOINES BLUE CROSS PLAN ADDS 22.25 PER CENT

Hospital Service, Inc., of Iowa, the Des Moines Blue Cross Plan, finished the eighth year of its service with 420,646 members. This was a gain of 76,585, or 22.25 per cent over the Dec. 31, 1946, figure of 344,061.

In the eight years there have been 160,857 hospital cases of members for which \$8,401,711.65 was allowed by Blue Cross. Over one-third of the cases, 55,285, occurred during 1947 and the Blue Cross allowance amounted to \$3,392,069.95.

Hospital costs continue to rise. In 1942 average case allowance by the Des Moines Blue Cross Plan was \$34.16. In January, 1947, it was \$58.96. This figure had risen to \$64.13 in December, 1947.

STATE DEPARTMENT OF HEALTH

Walter Diering

HYPERIMMUNE SERUM FOR PERTUSSIS

During the months of 1947, the Department's Serum-Plasma Center distributed 24,174 cc. of hyperimmune serum for use in prevention and treatment of whooping cough.

Data contained in a series of 112 serum reports, completed and returned through courtesy of Iowa physicians, are summarized in the following paragraphs. The report is based on 85 serum records which contained needed information.

Hyperimmune Serum in Prophylaxis

Twenty-eight of the reports stated that hyperimmune serum was used to prevent whooping cough after known exposure to the disease. Half of those receiving serum as a prophylactic measure were infants under two and 82 per cent were children under six years of age. Although an insufficient amount of serum (5 cc.) was used in several instances, over 80 per cent of the reports indicated that 20 cc. (the amount of serum recommended for prevention) had been administered. Nearly 50 per cent of the children received preventive treatment within one week and 86 per cent within two weeks following exposure.

Results

The reports show that whooping cough was prevented in 85 per cent of the cases and the disease attenuated in the remaining 15 per cent.

Hyperimmune Serum in Therapy

Serum was used therapeutically in 57 patients, whose age distribution is shown in the following table:

WHOOPING COUGH IN IOWA—1947		
Age Distribution of Patients Who Received Hyperimmune Serum		
Age	Treated with Hyperimmune Serum Number	Per Cent
Under 1 year.....	35	61.4
1-4 years	13	22.8
5-9 years	6	10.5
Over 10 years.....	3	5.3
Total.....	57	100.0

Whooping cough was in severe form in 55 per cent of those treated, and moderately severe in an additional 35 per cent. Sixty-eight per cent received serum within 10 days after onset of the

disease; an additional 24 per cent had serum after the cough had persisted between 10 days and 3 weeks.

The amount of hyperimmune serum as administered varied from 10 cc. (inadequate) to 80 cc., the latter figure being the total amount needed over a period of days for infants severely ill.

Results of Treatment with Hyperimmune Serum

Serum reports completed by Iowa physicians indicate that whooping cough was modified in 94 per cent of those treated, while 6 per cent received no apparent benefit. The following comments are quoted from a number of the records:

1. Infant 2 months old: "Seemed to give a great deal of relief" (G. R. Woodhouse, M.D., Vinton).

2. Infant 5 months old: "Excellent result" (H. L. Klockslem, M.D., Story City).

3. Infant 18 days old: "Baby born into home where whooping cough was present. Began to cough when 7 days old, serum given at 8 days of age" (T. J. Egan, M.D., Bancroft).

4. Infant 2 months old: "Did not show improvement until after third 20 cc. Then the attacks were less frequent but still severe" (L. H. Schafer, M.D., DeWitt).

5. Infant, 5½ months old: "Child improved the day following the last injection (total amount 50 cc.). The severe spasms of coughing subsided" (T. V. Niemann, M.D., Brooklyn).

6. Baby, 9 months: "Reduced number of paroxysms and amount of mucus" (John W. Bickley, M.D., Waterloo).

7. Infant, 3 months: "Good result—the vomiting stopped and severe paroxysms much improved" (J. R. Miller, M.D., Wellman).

8. Baby, 2 months: "Patient exposed on May 31, 1947. Started coughing on June 6, with increased severity. After last treatment (total, 40 cc.) no increase—developed no spasm" (Alvin E. Evers, M.D., Emmetsburg).

Hyperimmune Serum Available

The Department's Serum-Plasma Center is prepared to forward this type of serum promptly on

request. Order by telegram, or telephone 4-9111, extension 197. To secure serum after hours or on Sunday, phone 7-1417, Des Moines.

TRICHINIASIS IN IOWA

The occurrence of two separate outbreaks of trichiniasis in Iowa during December, 1947, and January of this year emphasizes the probability that this disease is causative of more cases of human illness than is realized.

Reported Occurrence

Cases and outbreaks of trichiniasis as notified to the State Department for the period 1932-1947, are shown in the following table:

TRICHINIASIS (TRICHINOSIS) IN IOWA Reported Occurrence During the 16-Year Period 1932-1947			
Year	Cases	Year	Cases
1932	2	1940	1
1933	50	1941	0
1934	11	1942	1
1935	11	1943	0
1936	8	1944	0
1937	1	1945	106
1938	8	1946	0
1939	0	1947	0

During December of 1947 all but two members of a large farm family in Hardin County, Iowa, developed severe illness from trichiniasis (trichinosis). Chief complaints at onset were of fever, diarrhea, muscle soreness, swelling of face and eyelids.

The diagnosis was based on clinical findings, on differential blood counts showing a high percentage of eosinophils and on the demonstration of trichina larvae by biopsy of muscle tissue. Trichina larvae were also found in a specimen of cured ham which the attending physician (F. W. Houlihan, M.D., Ackley, Iowa) forwarded to the State Hygienic Laboratory of the State Department of Health. The ham had looked so good that children and parents in the farm home ate slices of the pork before the meat was cooked.

Inquiry and investigation revealed that this (the M) farm, has in recent years supported a

large rat population. Of six rats trapped on the farm and tested at the State Hygienic Laboratory, four were found to contain Trichinella spiralis; one rat alone was found to harbor nearly a quarter-million trichina larvae.

Rats probably acquire infestation chiefly through cannibalism, also from uncooked meat scraps. It is known that hogs will eat rats when there is occasion. No garbage had been fed to the hogs on the M-farm—only corn, water and soaked oats.

Two cases of trichiniasis were reported from Johnson County in January, 1948. Attending physicians were Harry R. Jenkinson, M.D., of Iowa City and Lewis H. Jacques, M.D., of Lone Tree. One of the patients was a farm woman who tasted ground pork while spicing the meat; her illness proved fatal in the third week from onset. A married daughter who ate pork patties while visiting her mother also suffered serious illness.

Diagnosis was based in part on clinical symptoms and signs and on a marked grade of eosinophilia.

By means of the digestion method with artificial gastric juice (1 per cent pepsin and 0.5 per cent HCl) I. H. Borts, M.D., Director, State Hygienic Laboratory, found that a pork chop weighing 45 grams contained nearly 16,000 trichinella larvae. This portion of meat was from the same source as the ground pork which caused illness.

Measures for control and prevention of trichiniasis should include: (1) thorough cooking of all fresh pork; (2) sharp freezing of cured ham and smoked sausage in locker plants at -20 F., following by storage at not less than 5 F. for at least twenty-one days, to destroy any trichina larvae which may be present; (3) ratproofing of corn cribs, removal of structures that provide rat shelter and elimination of rats by all methods known to sanitary science; (4) keeping uncooked meat scraps away from hogs.

MORBIDITY REPORT

Diseases	Jan. '48	Dec. '47	Jan. '47	Most Cases Reported From
Diphtheria	8	12	5	Polk (2) others scattered
Scarlet Fever	246	230	129	Dubuque, Polk, Washington
Typhoid Fever	0	1	1	
Smallpox	0	1	0	
Measles	1,157	391	49	Dubuque, Henry, Lee, Muscatine
Whooping Cough	44	70	36	Cass, Des Moines, Washington
Brucellosis	30	31	45	Scattered (mostly 1 in county)
Chickenpox	429	382	435	Black Hawk, Des Moines, Johnson
German Measles	1	4	10	Adams
Influenza	1	0	1	Winneshiek
Malaria	6	0	3	Polk (3) (Black Hawk, Boone, Scott 1 case each)
Meningitis Meningococcus	6	2	10	Scattered
Mumps	361	244	70	Black Hawk, Linn, Polk
Pneumonia	15	3	19	Polk, Black Hawk, Boone
Poliomyelitis	6	3	6	Black Hawk, Story, Tama 1 case each
Tuberculosis	72	52	57	Woodbury (3)
Gonorrhea	109	72	171	For the State
Syphilis	232	167	149	For the State

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No. 3

A Message From the Speakers Bureau

These are busy days for the practitioner. They are equally busy times for the medical educator and the research worker.

It is an imposition on many of the latter group to ask them to take one or two days out of their crowded schedule and travel two or three hundred miles to deliver a talk to a group of physicians. The imposition is doubly great when such an effort is greeted by an auditorium with most of the seats unoccupied.

The Speakers Bureau has made an earnest effort to offer the physicians of Iowa postgraduate courses of unusual merit, designed to acquaint the doctor at the bedside with the latest advances from the leading laboratories and clinics of the country. In too many cases, the local physicians have discouraged the speakers from returning to Iowa for further engagements by the paucity of attendance at these presentations.

Within recent months, postgraduate courses in obstetrics and pediatrics were offered to Iowa physicians in the eleven councillor districts of the state, all expenses to be defrayed by federal funds furnished through the State Department of Health. Only two districts have evinced an interest in having such a course to bring their members up to date on recent advances in these important fields.

Medical practice in Iowa has been maintained on a high plane. It cannot but suffer if the practitioners fail to take advantage of the opportunities offered them to keep abreast of developments in the art and practice of medicine.

Annual Easter Seal Sale

February 28 to March 28 has been designated as the period for the 1948 Easter Seal sale. Funds obtained through this campaign are devoted entirely to the program of the Iowa Society for Crippled Children and the Disabled. Most physicians in the state are familiar with the Society's broad program of aid to the handicapped of Iowa.

A home employment program has been carried on since 1941. It has included war work, handicraft, direct mailing activities, retouching and tinting of photographs, telephone surveys, and lace trimming. The service is available to handicapped veterans and others who are ineligible for



governmental programs for various reasons. Close cooperation is maintained with all other agencies in this program, as in every service activity of the Society. The types of disabilities now receiving this service include various orthopedic disabilities, diabetes, epilepsy, cerebral palsy, blindness, and any combination of these.

Remuneration for home work is never as steady as regular employment outside the home. However, some workers are making fifty to ninety cents an hour. Others receive less because of the nature of the handicap. When the disabled person has activity that is of a realistic, work-a-day world type, when he has money in his pocket, he gets a feeling of well-being and achievement.

The Society takes precautions to see that the handicapped person gets a fair deal. Regulations established by the Wage and Hour Division of the United States government are observed. Handicapped workers certificates, or sheltered workshop certificates, are obtained in accordance with workers' speed on piece work. Rates of pay are based on the minimum applicable wage for each operation. Industries, manufacturers and labor in Iowa have accepted this program well.

The State Medical Society Auxiliary has become interested. The Sioux Med-Dames in Woodbury County have sponsored and managed two sales of products made by the handicapped in that area. The Polk County Medical Society Auxiliary is conducting a Craft and Hobby Show at Younkers in Des Moines during the third week of March. Entries are coming from all over the state. Persons interested

in offering an entry should write the Iowa Society for Crippled Children and the Disabled.

This is only one of the Easter Seal services, others being medical, dental, hospital and convalescent home care; prosthetic devices, equipment, physical therapy; camping and recreation; special education, speech correction; Spastic Club of Iowa, and the Cerebral Palsy Demonstration School in Des Moines.

Fortunately, the Easter Seal campaign has resulted in increased funds raised each year. Inasmuch as this is the major financial support for the Society's work, the increased income indicates that the program is being efficiently managed. Physicians of Iowa are urged to assist handicapped people throughout the state by lending active support to this worthy project.

Undercooking and Food Conservation

Elsewhere in this issue the State Department of Health has called attention to the problem of trichinosis in Iowa. Prevalence of this disease, its causes and prevention are receiving an increasing amount of nationwide interest of late as evidenced, for example, by the recent report of the Massachusetts Department of Public Health.* In the ten year period 1936-1945, a total of 287 cases were reported to the Massachusetts Department of Public Health with 7 deaths. Undoubtedly many times as many persons were so mildly ill of trichinosis as never to have come under medical care.

Surveys of autopsy material in various localities throughout the United States have shown an incidence of trichinous infections varying from 16 to 36 per cent. It is generally recognized that man becomes infected by eating trichinous pork, which in turn comes from hogs fed on garbage containing scraps of uncooked trichinous pork. The average incidence of trichinosis among hogs in the United States during the past fifty years has remained practically unchanged at a level of approximately 1.5 per cent. It has been estimated that 96,849,000 hogs were slaughtered in the United States during 1944, and the total production of pork was 12,893,000,000 pounds.

This amount of pork would furnish about 30,000,000,000 individual servings, or approximately 200 servings per person in the United States, of which 3 would contain trichinae. Since the average length of life of Americans is now over 64 years and an average of 200 servings of pork are

annually eaten per person, for the lifetime of each person nearly 200 meals of pork containing trichinae are consumed.

Misinterpretation of the plea of the national food conservation committee not to overcook meat could easily cause an increase in trichinosis and perhaps some forms of food poisoning. The practice of undercooking pork and pork products is widespread enough for perhaps hundreds of persons to become infested with the parasites in Iowa annually. Nothing should be done to increase the magnitude of the trichinosis problem.

The prevalence of salmonellosis may also be increased by undercooking animal products. *Salmonella* organisms are present in many animals, as well as in eggs and other products. Heating thoroughly is the best safeguard against such infections. Heating a large roast, ham or fowl all the way to the center takes longer than many cooks and housewives realize, however. Even two hours of boiling of a large ham does not always raise the center to a high enough temperature (at least 150 F.) to kill *salmonella* organisms.

Palatability and nutritional value are important features to be preserved but it is hoped that they will not be purchased at the price of increased illness. It is essential to emphasize that meats should not be undercooked while efforts are made not to overcook them.

1946 Mortality Rate Hits New Low

In view of the criticism often pointed toward the medical profession, it is interesting to note in a bulletin released Dec. 30, 1947, by the National Office of Vital Statistics of the U. S. Health Service, the year 1946 was reported as marking a new record low for crude death rate in the United States. The death rate for the year was 10.0 per 1,000 population as compared with 10.6 in 1945 and the previous lowest rate of 10.4 in 1942. The total number of deaths in 1946 was 1,395,617, or 6,102 fewer than in 1945.

For the third consecutive year deaths from diseases of the heart increased, causing 30.8 per cent of the mortality in 1946 as compared with 30.3 per cent in 1945 and 29.6 per cent in 1944. Cancer and other malignant tumors continued to increase in importance as a cause of death, totaling 182,005 or 13.0 per cent in 1946.

The number of deaths from the major chronic diseases (intracranial lesions of vascular origin, nephritis, and diabetes mellitus) decreased while a new record low was set for deaths from the major infectious disease (pneumonia, influenza, and tuberculosis). Maternal mortality also de-

*Trichinosis in Massachusetts, *New England J. Med.*, cxxxviii: 201-202 (February 5) 1948.

Also Trichinosis and food conservation, p. 200.

clined to a new low in 1946. Despite the tremendous increase in the birth rate, maternal deaths decreased from 5,668 in 1945 to 5,153 in 1946. During this period the number of births increased approximately 20 per cent while the number of deaths resulting from diseases of pregnancy, childbirth, and the puerperium decreased 9.1 per cent.

The five leading causes of death in the United States in 1946 in order were diseases of the heart, cancer, intracranial lesions of vascular origin, nephritis, and accidents other than motor vehicle accidents. This is the first year pneumonia and influenza (combined) were not represented among the top five.

Statistics for the past year are not yet available, of course, but based on data for the first ten months of the year, the estimated death rate for the United States in 1947 was 10.1. All figures used by the vital statistics office are for the continental United States and exclude armed forces overseas.

Report of National Conference on Rural Health

The third annual meeting of the National Conference on Rural Health was held in Chicago on February 6 and 7. There was a large attendance, representing the various rural health committees of the national farm organization, the Public Health Service and the medical profession. The conference this year limited its discussions to the health problems of the rural child.

Dr. Lee F. Hill of Des Moines opened the sessions with a discussion of the "Health Problems of the Rural Child." He pointed out that the three to four thousand child specialists of the United States are located almost exclusively in the urban centers and that three-fourths of the forty million children in the country are dependent on the general practitioner for their medical and health supervision. The health services which are generally unavailable to the rural child are: (1) the general health supervision of the well infant and child including regular examinations, immunization at the proper time, supervision of the nutrition and parent physician consultations regarding the physical, emotional and mental development of the child; (2) specialist consultation service for the sick child; (3) facilities for the treatment of the more serious illnesses; (4) special facilities and trained personnel to care for the premature infant.

To make these services more available to the rural child Dr. Hill made several suggestions. There must be an increase in the number of physi-

cians in the rural areas. The medical schools need to put more emphasis on the teaching of pediatrics so that the general practitioner will have a better understanding of the problems of this large part of his practice. More time in the internship for the general practitioner should be devoted to pediatrics. Rural hospitals should be built in those areas without hospital facilities and pediatric residents from the larger centers should serve a part of their time in these rural hospitals. Consultants from the medical centers should make regular visits to various rural hospitals and health centers to give advice and consultation on pediatric problems. There should be an increase in the pediatric teaching in the postgraduate instruction of the practicing physician. Dr. Hill's remarks rather completely set the pattern followed by the other speakers, both as to the problem involved and the possibilities for meeting the needs of the rural health problem in infancy and childhood.

The recent study of child health by the American Academy of Pediatrics has given a clearer understanding of the health services available to the rural child. About 67 per cent of the children of the country are in rural and isolated areas. In these areas the per capita income is about one-third that in the urban areas. Forty per cent of the births in these areas occur in the home. Less than half as many beds are available for sick children. In the rural areas there are 1.2 general practitioners per thousand children; in the urban areas there are 3.2. The supply of dentists follows the same pattern.

From these figures it has been estimated that there is need for a 50 per cent increase in hospital beds, 100 per cent increase in general practitioners and 200 per cent increase in dentists in the isolated rural areas of the country.

From the survey it is evident that there is need for an increase in both the quantity and quality of medical care available. A well trained physician is of much greater importance, however, than an increase in facilities. The general practitioner gives about 75 per cent of the pediatric care in the country as a whole.

One of the statements which has been repeatedly made by various individuals and groups, especially in the promotion of plans for some form of governmental medical care plan, has been that the rejection of rural youth for military service during the last war has shown a great lack of medical care in rural America. Dr. Maurice H. Friedman, a practicing physician in Washington, D. C., reported on a study which he has made of the rejections by selective service in rural and

urban areas. His is the first thorough study which has actually taken the figures and tried to determine the actual facts brought out. He studied the defects listed in several states, among them Iowa, Illinois and Indiana. The rural areas were those in which there was no town of over 2,500. In the over-all rural figures for the country the rejections were much loaded because they included a large proportion of the colored population of the south, in which the rejection rate was extremely high. With respect to white men, the number accepted for military service per hundred examined was higher in the rural population than in the urban. This was true, not only in the United States as a whole but in any section. The farm men in rural counties showed a slightly higher rate than the town men but still higher than in the urban areas. In considering these figures one should also keep in mind that many of the best of the farm youth were exempted and kept for work on the farm.

In the colored population the rate of rejection for rural and urban was almost exactly the same, but due to the fact that a large percentage of the southern Negro population is rural, the total rejection in rural areas was higher. It is well to recall here that syphilis, educational and/or mental deficiency accounted for 60 per cent of all colored rejections.

Selective service statistics are not of any value when it comes to trying to evaluate the health of any area or any group, rural or urban. With the exception of syphilis, high blood pressure and mental or educational deficiency the Negro of the United States had fewer defects than the white. Yet, does this mean that the colored population is healthier than the white? The finding of defects, from the military viewpoint, is no evidence of the health condition of the individual. Many of the defects for which men were rejected were not due to the lack of, but were definitely because of good medical care. Among these might be mentioned amputations and controlled diabetes. Statistics would have been better had the amputee and the diabetic died of their injury or disease, but the fact that they lived, and probably could carry on a useful occupation through life, is due to good medical care.

Several reports were given of efforts being made in various parts of the country to improve the medical and health care of the rural child. The carrying out of the provisions of the Hill-Burton bill by building hospitals and medical centers will, in the next few years, help in many areas. The various state pediatric groups are planning for consultation services in rural areas

by specialists from the medical schools and centers of population. Health councils are being formed over the country and will be able to organize the health services to fill the needs which are found in surveys of the health services of the areas involved.

The conference was a decided success. The meeting of the lay people interested in rural health, with the medical men who must supply many of the services, rapidly brings a common understanding of the problems involved, and there is a tendency to realization that all parties are interested in the same subject. The only way to solve the problem is for each group to carry out that part of the solution which is in his province and give all aid possible to the other groups in their efforts.

RECORDING YOUR DATA IN THE NEW AMERICAN MEDICAL DIRECTORY

The American Medical Association reports that 115,000 physicians have returned their Directory Information Cards supplying data for the new AMERICAN MEDICAL DIRECTORY now being compiled. Those physicians who have received these cards and have not returned them are urged to do so at once. This information is needed for your listing in the 1949 Directory.

Please use the card that has been addressed to you, as it bears the serial number which has been assigned to your data. If a card is received by you addressed to another physician who has moved away, return the card with the doctor's new address written on the slip bearing his name and serial number if you can supply the information.

Before filling out your card, check the list of specialties on the back of the card and select only one specialty, indicating, in the space provided on the front of the card, either that your practice is limited to that specialty or that you give special attention to that branch of medicine along with general practice. Fill in the lines marked "Intern" and "Resident" *only* if you are now serving an internship or residency in a hospital.

A second request with a duplicate Information Card will be sent very soon to all physicians from whom cards have not been received so that they may have an opportunity to supply the necessary information for their listing in the Directory.

In checking the information cards received from physicians, the Directory Department of the A. M. A. reports that it becomes increasingly apparent that many are not aware of the difference between "Membership" and "Fellowship" in the American Medical Association.

Each Fellow receives a Fellowship Card from the Association annually as payment of his dues is recorded, which card is presented for admission to the Annual Meetings of the Association.

SPEAKERS BUREAU

HERMAN J. SMITH, M.D., Des Moines, *Chairman*

ROBERT N. LARIMER, M.D., Sioux City

HORACE M. KORNS, M.D., Dubuque

BEN F. WOLVERTON, M.D., Cedar Rapids

L. C. HICKERSON, M.D., Brooklyn

IMPORTANT ANNOUNCEMENT

The spring season of educational and scientific programs is opening with a bang! Follow the announcements as they appear each month and plan to attend all of the courses being held in or near your community.

All physicians are working hard and allowing too little time for relaxation and pleasure. Why not participate in the postgraduate courses and institutes when they are offered? Enjoy a good dinner, social contacts, and in particular—take advantage of the excellent programs which have been arranged.

Read on—see for yourself the fine selection of subjects and the list of exceptionally prominent speakers scheduled.

POSTGRADUATE COURSE—CRESTON

James G. Macrae, M.D., Local Chairman
Iowa Hotel

- March 3 The Treatment of Diabetes Mellitus
Henry T. Ricketts, M.D., Chicago
Associate Professor of Medicine
University of Chicago School of Medicine
- March 10 RH Factor in Obstetrics
William C. Keettel, M.D., Iowa City
Department of Obstetrics and Gynecology
State University of Iowa College of Medicine
- March 17 Gastro-intestinal Diagnosis
J. Dewey Bisgard, M.D., Omaha
University of Nebraska College of Medicine
- March 24 Heart Block and Use of Quinidine
Horace M. Korn, M.D., Dubuque
- March 31 Encephalitis
Douglas N. Buchanan, M.D., Chicago
University of Chicago School of Medicine

FORT DODGE—OBSTETRIC AND PEDIATRIC INSTITUTE

Charles J. Baker, M.D., Local Chairman
March 25, 1948—Wahkonsa Hotel

- 3:00 p. m. Obstetric Analgesia
Earl C. Sage, M.D., Omaha
Professor of Obstetrics and Gynecology
University of Nebraska College of Medicine
- 4:00 p. m. Rheumatic Fever in Children
Robert L. Jackson, M.D., Iowa City
Associate Professor of Pediatrics
State University of Iowa College of Medicine
- 5:00 p. m. Arteriosclerotic Toxemia of Pregnancy
John L. McKelvey, M.D., Minneapolis
Professor of Obstetrics and Gynecology
University of Minnesota Medical School
- 6:30 p. m. Dinner (and social hour)

7:30 p. m. Fluid Balance in Children

Gilbert B. Forbes, M.D., St. Louis
Assistant Professor of Pediatrics

Washington University School of Medicine

A.M.A. BROADCASTS SPONSORED BY STATE DEPARTMENT OF HEALTH

The Iowa State Department of Health has arranged for a series of health education broadcasts secured from the American Medical Association. They are being presented at the present time by the following radio stations:

KSIB—Creston, every Sunday from 5:00 to 5:15 p. m.

KSO—Des Moines, every Saturday morning at 8:45.

KSCJ—Sioux City, every Sunday morning from 8:45 to 9:00 beginning on February 28.

WMT—Cedar Rapids and KDTN—Dubuque, will begin the series when they have completed the presentation of a mental health series now being broadcast, also sponsored by the Iowa State Department of Health.

KMA — Shenandoah, KWPC — Muscatine, and KICD—Spencer and Estherville, have accepted the series for audition and anticipate presentation. Later reports will be made as other stations present the broadcasts.

The State Department of Health has fifteen different sets of American Medical Association broadcasts which will be placed in various stations throughout the state. Stations interested in presenting these fine health education broadcasts should contact the Division of Public Health Education, Iowa State Department of Health, Des Moines 19, Iowa.

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Wednesdays at 2:45 p. m.

WSUI—Thursdays at 11:45 a. m.

- Mar. 3-4 Red Cross in Action
Mr. E. N. McIlrath, Des Moines
- Mar. 10-11 Common Children's Diseases—Measles and Scarlet Fever
Paul L. Stitt, M.D., Fort Dodge
- Mar. 17-18 Common Children's Diseases — Diphtheria
Jerald Greenblatt, M.D., Cedar Rapids
- Mar. 24-25 Common Children's Diseases—Whooping Cough
Chas. A. Waterbury, Jr., M.D., Waterloo
- Mar. 31-Apr. 1 Newer Concepts of Hospitalization
Donald C. Konzett, M.D., Dubuque

NEWS NOTES

from the

Committee on Medical Service and Public Relations

Philosophy of a Medical Service Plan

F. L. Feierabend, M.D., Kansas City

PART II

(Continued from February issue)

The use and exercise of any of our rights creates obligations and responsibilities. Every right and privilege has its commensurate responsibility. Neglect the responsibility and the right will be lost. As a doctor, I have rights and privileges. I have the right to expect protection from the state in the exercise of my rights and privileges. This protection, however, may not exceed the protection that is given in the interest of the common good. In the exercise of my rights I must recognize that the implications are dual. In the use of rights or ownership there is a twofold character, individual and social. I must not only take into account my own advantage, but also that of the common good. The rights of the common good are the greater, and greater rights always take precedence over lesser rights. These are fundamentals which I must recognize and observe if, as a social being, I expect to live in and enjoy a society that does not usurp my rights and destroy my liberty.

Exercise of my rights and privileges incurs obligations and duties, duties to my fellow man. As a doctor, I have been given special training. This training is highly technical and possessed by few people. Since providence has smiled on me and showered me with special blessings, am I permitted to use this special gift to promote my own selfish desires? As a social being and a component part of a complex society I must recognize that I have a part in the collective task.

Every doctor has the obligation to make his special talent available to all the people. No doctor by his own efforts could develop all the information he possesses, if he were a Solomon and lived a thousand years. Doctors must realize that their knowledge was developed by the collective efforts of the multitude that preceded them and that this knowledge may not be exploited. As doctors we serve in the capacity of stewards,

and we must never forget that some time we will be called upon to give an accounting of our stewardship.

Generally speaking, when doctors are motivated by selfishness, it is the result of living in a materialistic economy and almost complete lack of ethical and philosophical teaching in our schools. More and more doctors are now coming to realize that they are social beings and live in a society that is governed by Christian principles. We are beginning to understand that we cannot neglect our duties and retain our privileges. We are perilously close to reaping the just reward of our social sinfulness and neglect. It is our moral duty to make good medical care available to everybody. Right order dictates that any social duty should be performed by the lower and better qualified group, but it also dictates that the failure of the lower group to recognize and perform its duties makes it mandatory that the higher body provide the answer. And it is by this very principle, through our social lethargy and neglect that we have invited the social planners to invade our domain and usurp our rights. Actually, we have asked for it. Are we beginning to understand why the serpent of regimentation has reared its ugly head? Shall we surrender our God-given rights to our social sinfulness?

This is our job, our moral duty, and we dare not fail. The implications are much greater than appear on the surface. I abhor regimentation and communism and I will oppose the communistic creed with all my energy. I recognize that the regimentation of the medical profession is only the beginning. It is an insidious promise of something for nothing that has its appeal, but the ultimate cost will be our liberty—a price we dare not afford. Benjamin Franklin once said, "He who would sacrifice essential liberty for temporary security deserves neither liberty nor security." It is of much greater importance to prevent totalitarianism than to prevent regimentation of the

medical profession. Organized medicine has a tremendous responsibility. If by our lethargy and neglect we permit regimentation of the medical profession we will have provided the lever to break the seal of Christian democracy and permit entrance of atheistic totalitarianism. We will have provided the fertile soil on which the seeds of communism will grow.

If this is to be accomplished, we must reject the teachings of the materialist sociologists and return to the teachings of the moral law. We must recognize that there is a God who will hold us accountable for all our deeds and that man is a rational animal possessed of an intellect and a free will. We must reject completely the doctrine of the materialist which teaches that there is no God, that religion and morality are the opium of the people, that man is motivated entirely by instinct. Doctors must avoid this materialistic doctrine or by their very acts they will be promoting regimentation. Neglect of our social responsibility invites the state to take over with coercion and regimentation.

All of this must be militantly rejected and conscience must return to the picture. We must redevelop a social conscience, self-imposed and self-regulated. The materialist, however, rejects conscience completely and by so doing he leaves only coercion. So far the best instrument to be developed to use coercion is the state. Because a social conscience is lacking as a motivating factor, the state is forced to pass more and more laws designed to promote the common good. Multiplication of such a policy leads to regimentation and ultimately to totalitarianism. To avoid this we must return to conscience and moral law, develop a desire to do good and avoid evil, recognize our duties and obligations to each other and act accordingly. This self-discipline is a must if Christian democracy is to survive.

The medical profession is the spearhead in the fight to retain our God-given rights and is against totalitarianism. We must recognize that it is our responsibility and duty to make medical and surgical services easily available to all members of society. Failure to do this creates a gap in our complex society which cannot be permitted, and this very action invites regimentation.

Health Education Forums Continue

Health education forums sponsored by the Iowa Interprofessional Association and the Iowa State Department of Health continue to be presented. On February 4 a health education forum was held at Boone. This was an evening forum only.

Three topics were selected by the local committee representing the County Farm Bureau, the Federated Women's Clubs, the City and County Parent-Teacher Associations.

Dr. B. J. Gray of Fort Dodge presented the topic, "Diseases Common to Man and Beast." Dr. R. M. Sorenson, director of the Division of Venereal Disease Control of the Iowa State Department of Health, presented the topic, "What Is the Venereal Disease Control Program?" and Dr. E. G. Zimmerer, director of the Division of Cancer Control of the Iowa State Department of Health, presented the topic, "Cancer Education."

The following communities have requested a list of topics available for forum discussion: Creston, Corning, Sheffield and Davenport.

Communities interested in holding forums should notify Leonard C. Murray, director of the Division of Public Health Education, Iowa State Department of Health, Des Moines 19, Iowa.

ADDED FACILITIES AT UNIVERSITY HOSPITALS

In February the University of Iowa Hospitals, for the first time in their history, opened their facilities to full use. Already (in 1947) the University Hospitals were the fourth largest state-owned general hospital unit in the United States and ranked second in the total number of cases handled.

The hospitals now have 925 beds. In 1947 they admitted 18,496 patients; admittances will be above 20,000 in 1948, says Gerhard Hartman, Superintendent. This expansion to full capacity, made possible by appropriations of the 1947 Iowa General Assembly, will permit the University Hospitals to give better service in two roles:

1. The hospitals are connected with the state's only medical school, here at the University of Iowa.
2. The hospitals provide state-supported treatment for Iowans who couldn't otherwise have first-class medical care.

About 85 per cent of the hospitals' patients have their bills paid by the state. These patients are picked by county welfare officials, with the help of local doctors, on a county quota system. Every county has its quota according to its population, set by the hospitals' capacity and the state's available finances. The other 15 per cent of the hospitals' capacity goes to various classes of paying patients, some of whom pay doctors' fees and some of whom do not.

Additional appropriations made it possible for the University Hospitals to boost county quotas by one-third last July. There will probably be some further increases before next summer, says Hartman.

Iowa's total hospital facilities are still short, according to a recent Iowa hospital survey. Of 12,000 which the state should have, there are only 6,000 beds in general hospitals in Iowa.

VETERANS ADMINISTRATION

WHAT CONSTITUTES AN ADEQUATE EXAMINATION FOR COMPENSATION AND PENSION PURPOSES

It is the purpose of this presentation to set out the essentials of an adequate examination when called upon to examine a veteran for compensation or pension benefits administered by the Veterans Administration.

Practically every physician who is in good standing in the state is a designated examiner under the contract entered into by the Iowa State Medical Society with the Veterans Administration.

The Veterans Administration is primarily concerned in disabilities incurred while in the military service, or those disabilities which existed prior to his military service but have been aggravated as the result of his military service.

In the essentials of a physical examination report, the data required by a rating board or the appellate agency comprehend considerably more than those which suffice for the ordinary physical examination, which are primarily for establishment of a diagnosis and indication of proper therapy.

The additional and peculiar need of boards making disability ratings is such concrete, detailed, medical or surgical information reflecting pictures of functional impairment as can be translated into percentage evaluations of average reduction in earning capacity from such injuries in civil occupations.

It is with visualizations of the relative extents of functional impairment that rating boards are concerned. In evaluating disability, the consideration is not so much the disease or injury itself as it is the relative disability resulting from the disease or injury. Accurate diagnosis is, of course, essential.

Notations of subjective symptoms will be made. They have a corroborative significance when consistent with objective findings. When complaints by the veteran are too vague or too general to be of value, as when such complaints as "my chest aches," "my foot hurts," "I am nervous," "I get tired easily," etc., are made, the examiner should develop something more specific if possible through *careful* but not *leading* questions. Take particular care not to confuse subjective com-

plaints with objective findings. Bear in mind at all times that the objective findings are the basis from which the rating boards arrive at the proper evaluation to which the veteran is entitled.

I will as briefly as possible, under the proper headings, give you the requirements under the Veterans Administration's regulations for adequate examinations.

Head and Neck:

- Hair deformities

- Infections

- Evidence of rigidity of neck

- Palpable masses or defects

- Scars, if disfiguring so state

- Head injuries with loss of bone substance, if any.

Eyes:

- Pupils: size, shape, color, reaction to light and distance

- Conjunctivae, petechiae

- Extra ocular movements

- Record of glasses worn

- Artificial eye

- Defective vision is evaluated on corrected vision, 20/20 being standard used (Snelling chart)

- Examine each eye separately.

Ears, Nose:

- Obstruction, deformity, external canals

- Drums, perforation, scarring or retracted

- Nostrils, nares, polyps, ulceration

- Intranasal septum deviations

- This also includes all accessory sinuses

- Hearing tests are based on spoken voice at 20 feet, each ear being tested separately

- If hearing aid is used, test hearing with hearing aid in place.

Mouth and Throat:

- Tongue

- Mucous membranes

- Nasopharynx

- Larynx (when indicated)

- Tonsils, size, position, congestion

- Speech defects due to local pathology.

Chest:

- Expansion, shape, deformities

- Gunshot wound, retained foreign bodies, through and through wounds

- Emphysema

- Empyema

Postoperative procedures, with rib resection
Pneumothorax
Adhesions
Loss of muscle tissue
Dyspnea on exertion.

Lungs:

Percussion
Auscultation
Rales
Rhonchi
Pleural rubs
Tactile and vocal fremitus
Chronic bronchitis
Bronchiectasis
Chronic asthma
Lobectomy
Adhesions.

Cardiovascular:

Heart: size, shape and position, character, rate and rhythm, compensation, character, consistency
Abnormalities of peripheral vessels
Murmurs: valves involved, whether they are functional or organic

A diagnosis of organic disease of the heart must be based upon objective signs sufficient to establish the existence of a definite structural lesion

Arterial and venous pressure
Electrocardiogram

Work capacity is important, also pain and dyspnea

It is essential in hypertension and tachycardia that several readings be recorded, when advisable exercise tests should be accomplished

State any anginal attacks, especially in the coronary occlusions

Abdomen:

Appearance, type, distention, skin, muscle tone, spasm, rigidity

Scars, symptomatic, as tender or with keloid formation, adherent and loss of muscle, also herniation

Hernia, type, direct or indirect, complete or incomplete, and its reducibility.

Examine for any masses, especially for enlarged spleen or liver, with malaria history.

Genitalia, Abnormalities:

In males mention testicles, penis, hydroceles and varicoceles

In the female complete detailed pelvic examination when indicated

Under external genitalia describe outlet glands, discharge mucosa

Under pelvic supporting tissues describe anexae, uterus and cervix.

Rectum and Prostate:

Examine rectum for internal and external hemorrhoids; fistula, extent and course; excoriations, ulcerations, position, severity; sphincter tone and control, especially where there is history of cord lesion

Prostate, size, shape and consistency.

Back and Extremities:

Many disabilities and claim problems will be found under this heading

Rating boards need information in extremity or orthopedic problems on the degree of loss of strength of any affected limb. They also need information about proximal and distal joints, condition and motion of, next to the area considered.

For rating purposes the muscles of the body are set up into thirteen groups anatomically as to the function they perform. For example, shoulder girdle, anterior, posterior, mesial thigh, etc.

The conception of disability of a muscle or muscle group is based on the ability of the muscle to perform its full work and not solely on its ability to move a joint

It is also essential to know the extent of damage there is to the muscles involved, and loss of tissue, if any.

Amputations:

It is important to give the exact measurements, locating and describing appearance of site of amputation, function of part, condition of stump and adequacy of prosthesis. The site of an amputation is an important factor in the evaluation of the degree of disability. For example, in arm amputations, above or below the insertion of the deltoid carries a different evaluation; in the forearm the same is true, land mark being above or below the insertion of the pronator teres. In the thigh, its upper, middle and lower third; in the leg, at a level less than 2 inches below the insertion of the hamstring tendons. In the amputation of fingers and toes, the evaluation is based on joints involved, and whether metacarpal or metatarsal resection has been performed.

Joints, Extremities and Spine:

In the limitation of motion of joints it is essential to know the exact degree of flexion, extension, abduction, adduction, rotation, pronation and supination of all parts involved. The type and angle of ankylosis when present, favorable or unfavorable. In limitation of motion of extremities describe the arc in which veteran is able to move the extremity. The axis of 180 degrees constitutes the normal range.

Bones:

In examining for residuals of fractures, state whether there has been a good union, mal or non-union deformity and degree of shortening, if any.

Muscles, Extremities and Back:

Look for muscle spasm, atrophy and loss of tissue, also adhesions to the underlying tissue. If the disability is due to gunshot wound, designate the tract of the bullet.

Circulatory:

Describe the peripheral vessels, varicosities, position, distribution and severity. Response to diagnostic tests, Trendelenburg, etc., of both deep and superficial venous system. In describing varicose veins state whether they are confined to below the knee or extend above, is there any sacculation or ulceration, swelling of the extremities or pitting edema.

Neurological:

Subjective complaints referable to nervous system, such as headache, vertigo, syncope, convulsions, motor and sensory disturbances, visual difficulties, auditory symptoms, etc. Motor status and coordination including abnormal attitudes, muscle tone and strength, involuntary movements (tic, tremors), athetosis, test phrases and meningeal signs. Deep and superficial reflexes. Examination of the cranial nerves, vibratory sense and stereogenesis.

The Psychoneurosis:

These are to be classified as hysteria, neurasthenia, hypochondriasis, psychasthenia, anxiety state, mixed type, neurocirculatory asthenia and anorexia nervosa. Evaluations are based on the degree of social and economic adjustment veteran has made since his return to civilian life. It is important to know if he has returned to his pre-war level, especially as to his economic adjustment.

The epileptic is evaluated as to the frequency of seizures, so this is important information for the rating boards to have.

Malaria:

This disease is evaluated on the number of attacks, with complete diagnosis as to severity and symptoms; residuals are also an important factor.

Amoebic Dysentery:

This is another quite common disease contracted by the veteran during his military service and here again residuals play an important part. The mere diagnosis of dysentery is not sufficient. Several laboratory examinations of the feces are required, as too often the amoebas and cysts will not be demonstrated in one examination even

though the veteran may be suffering from the disease in a severe form.

Impressions and probable diagnoses are not acceptable by the Veterans Administration as a diagnosis for rating purposes.

I hope that setting out some of the essentials required for an adequate physical examination will be of some benefit to you in future examinations.

Harry W. Brown, M.D., Medical Rating Specialist

Published with permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the author.

GENERAL HAWLEY HEADS BLUE SHIELD AND BLUE CROSS

An event of peculiar significance was announced to the public when it was made known that Paul R. Hawley, M.D., former chief medical director of the Veterans Administration, had accepted the position as chief executive officer of both the Blue Shield and the Blue Cross Commissions.

Blue Shield Commission is the new name adopted by Associated Medical Care Plans (AMCP) according to Edwin M. Kingery, Des Moines, member of that Commission. Kingery also said Iowa Medical Service has announced it is now to be known as the Blue Shield Plan.

In a press conference at the time of the announcement of his appointment, Dr. Hawley said he took his new post "because it offers an exceptional opportunity to contribute to the improvement of medical care."

He said that he had been told that this new job is "too gigantic for a private, voluntary agency, and that only the government is in a position to make it successful."

"I would have no quarrel with this point of view except that it is invariably coupled with the provision that, to make it successful, the government would have to control medical practice," Hawley stated. "I have seen government medicine in operation in other countries, and I know what government control does to medicine. I want no part of it for our people."

"Government doctors," he added, "tend to forget the humanities in medicine, and the doctor-patient relationship suffers."

General Hawley was in charge of all medical activities for the army in the European theatre during the war. In this operation, he came to the attention of General Omar Bradley who, when he was appointed head of the Veterans Administration, asked General Hawley to head up the medical division of the Veterans Administration. In this work, General Hawley did such an outstanding job that the care of veterans in veterans hospitals and elsewhere improved tremendously. General Hawley was able to cut through a large amount of red tape and also was smart enough to enlist the aid of civilian members of the medical professions in solving some of the problems.

Dr. Hawley will assume his duties April 1, with headquarters in Chicago.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS FRED MOORE, 634 40th St., Des Moines 12

President-elect—MRS. A. G. FELTER, Van Meter

Secretary—MRS CHARLES A. NICOLL, Panora

Treasurer—MRS. M. A. ROYAL, 1138 Thirty-seventh Street, Des Moines 11

A MESSAGE FROM THE PRESIDENT

The annual meeting of any organization offers special opportunities that come only at that time. Much thought is going into the planning of ours in April to make its contribution to the strength of the State Auxiliary as great as possible.

We are assuming that our members in county auxiliaries and members-at-large, and we hope all eligible doctors' wives in the state, will come and lend their support to the total program. Then, there can be no doubt of our moving forward together.

Several specific purposes underlie the planning of this meeting. They are:

1. To adequately report the year's work so every member can know where we are as a state organization and what we are doing.
2. To have a thoroughly good time together through informal and planned social occasions when we can become much better acquainted with each other. (The Medical Society shares this even to the extent of planning a dance in connection with the banquet.)
3. To provide good presentations of subjects about which we should be well informed and which are, or should be, incorporated in our program.
4. To make our decisions on the objectives for the coming year with intelligent commitment to their accomplishment.

As you know, we are being told by the Trustees of the American Medical Association and by the leaders of our State Medical Society that a well-informed Auxiliary membership is one of the greatest assets the medical profession has. We also are being told that every doctor's wife should be a member—hence, the impetus for our efforts on county organization and members-at-large this year. To do well any state-wide project we must have members in every county. The county auxiliary, even though the membership is small, can function effectively. Until such time as organization of county auxiliaries can be completed, we are counting on members-at-large. It is our common task to perfect a state-wide organization through which the Auxiliary can work effectively.

The Auxiliary has two responsibilities at the present time that must have active support of doctors' wives in every county: (1) the student nurse recruitment program; (2) survey of practical nursing.

These are challenges to us and are fundamentally important to the medical profession.

There is still a little time before the annual meeting to extend our organization. How much can be completed by that time?

Mrs. Fred Moore, State President

MIDWINTER CONFERENCE OF THE EXECUTIVE BOARD

Twenty members of the Executive Board of the Woman's Auxiliary to the Iowa State Medical Society met for a midwinter conference at the Hotel Savery January 26. Mrs. Fred Moore, state president, conducted the meeting. Mrs. Moore reported the need for more organized auxiliaries and the work done toward that end in three counties recently.

Mrs. W. R. Hornaday, chairman of Nurse Recruitment, reported a balance on hand of \$540.30 in the Nurses' Loan Fund. The Board approved the payment of \$225 for tuition of a nurse in training at Iowa Lutheran Hospital, Des Moines.

The Iowa State Nurses' Association plans a survey to learn the names and status of practical nurses throughout the state to help alleviate the tremendous need for nurses. With the sanction of the Advisory Board of the Iowa State Medical Society, the Executive Board approved cooperation of the Woman's Auxiliary to that end.

Mrs. A. E. Merkel, chairman of the Archives Committee, brought recommendations that notebooks be purchased so that permanent records may be kept to facilitate the work of future officers and committee chairmen. The Board approved the purchase of the necessary notebooks to carry out this practical plan which is already in operation in other state auxiliaries.

Mrs. J. E. Dyson, president of the Polk County Auxiliary, announced the state exhibit and sale of handicraft of the Iowa Society for Crippled Children which will be held at Younkers in the spring under the auspices of the Polk County Medical Auxiliary.

A tentative schedule for the coming convention was presented with the hope that members at large will attend and become actively interested in Auxiliary work. This may be found in the program for the annual meeting.

Mrs. Eustace A. Allen, president of the Woman's Auxiliary to the American Medical Association, has

expressed the possibility of her attendance at the Iowa convention.

Mrs. Ann Lachner, Public Relations Representative of the Blue Cross Hospital Insurance, addressed the Board members at luncheon. She explained how Health Improvement Associations which co-ordinate health interests are organized in townships or counties to secure patrons for Blue Cross. Blue Cross has had a phenomenal growth with approximately 493,000 subscribers in Iowa to date. Blue Cross and Iowa Medical Service provide unexcelled financial aid to subscribers. Polk and Dallas counties were the first to be organized. Dallas County has some 4,000 subscribers.

At the afternoon session, Mrs. E. T. Warren read the revised constitution for consideration and approval of the Board. Printed copies will be available to all Auxiliary members with a future issue of the Woman's Auxiliary News.

Favorable comment was made on the large number of doctors' wives who are engaged in furthering the work of the Iowa Division of the American Cancer Society as county or local chairmen and in many other capacities.

Mrs. K. M. Chapler

ACTIVITIES OF COUNTY AUXILIARIES

Dallas-Guthrie Auxiliary

The Woman's Auxiliary to the Dallas-Guthrie Medical Society met on January 15 at the Adel Rotary Club. Following a luncheon with the members of the Medical Society, the Auxiliary held a regular meeting at the library. The meeting was called to order by the president, Mrs. Smith. The minutes of the last meeting were read, and a correction was made in the number of *Hygeia* subscriptions sent in for 1947. Mrs. Thornburg, treasurer, reported a balance on hand of \$31.07, and a membership of 28. Three bills were presented and all were allowed. Mrs. Osborn, *Hygeia* chairman, reported that 47 subscriptions were sent in by this Auxiliary last year. Mrs. Felter asked all Auxiliary members to report to her on public relations activities they have engaged in during their own communities.

Following the old business, Mrs. C. R. Osborn, president for the coming year, presided. The committees for the year were appointed.

Mrs. Osborn renewed clearly the projects for this Auxiliary for the coming year—nurse recruitment, public relations, *Hygeia* subscriptions, and an attempt to interest the wives of doctors outside our two counties in becoming auxiliary members or members-at-large.

Mrs. Smith then introduced the speaker of the afternoon, Mrs. Hague, former assistant director of the State Public Health Nursing Division. She gave an interesting talk pointing out that part of the demand for nurses at present is caused by planned hospital expansion and increased hospital care plans.

After plans for a social evening in March were discussed, the meeting was adjourned.

Mrs. Wm. A. Seidler, Jr., Secretary Pro Tem

Henry County Organized

It was moved to organize an Auxiliary to the Henry County Medical Society charter members to be wives and widows of the Henry County doctors. The motion carried. It was moved to suspend rules and nominate by acclamation. Mrs. W. A. Sternberg was elected president; Mrs. J. R. McKirahan, vice president; Mrs. J. Stewart Jackson, secretary-treasurer. The secretary was instructed to write members not present about the meeting.

Mrs. J. Stewart Jackson, Secretary

Webster County

Doctors' wives in the district were invited to attend a dinner at Ft. Dodge the night of November 4 when the doctors assembled for the Cancer Clinic. Thirty-six members attended. Mr. E. L. C. White gave an interesting and informative talk. Fifty cents per member was collected for the Nurse Recruitment Fund; \$8.50 was contributed. There are eight members working on the Cancer Control program.

The Woman's Auxiliary to the Webster County Medical Society met at dinner the night of January 22. Mrs. Marvin Burleson, president, appointed the following nominating committee: Mrs. E. N. Martin, Mrs. Dan Egbert, and Mrs. Keseling. A social hour followed.

Mrs. Emerson B. Dawson, Secretary-Treasurer

Worth County

The doctors and their wives of the Worth County Medical Society were entertained at a dinner at the home of Dr. and Mrs. S. S. Westly in Manly on January 18. The annual meeting was held following the dinner. Auxiliary officers were re-elected as follows: President, Mrs. S. S. Westly; secretary-treasurer, Mrs. B. H. Osten. It was decided to send a dollar per member for the Nurses' Loan Fund.

Mrs. S. S. Westly, President

NURSE RECRUITMENT

Each Auxiliary should have a Nurse Recruitment chairman and committee whose duties are as follows:

1. Secure necessary information and materials from the State Chairman. (See Fact Manual.)

2. Contact all schools in county to secure names of interested girls. Members may secure such information in their community from the principal of the high school or from the county superintendent of schools if there is no Auxiliary in the town.

3. Plan a program in the high school to interest girls in nursing. Include the seventh and eighth grade girls, for often decisions are made early. If you have a graduate nurse in your town or a girl who is in training, ask her to be present (in uniform, if possible). Have her tell about her hospital, its work and play, her room and her friends. Conclude with the showing of the film, "For You to Decide," a clever story of the life of a nurse in training which was made in the Des Moines hospitals. It is a 16 mm. film; a screen and projector will be needed. The

film may be secured from your state chairman and must be returned at once, as other groups may need it.

4. Promote nurse recruitment in all civic and fraternal organizations. Suggest a speaker on recruitment; a little later one on nurse legislation will be available. Any speaker should be one who has the facts and is well informed.

5. If you have a hospital in your community, contact your superintendent of nurses and find ways you can be of assistance to her and her nurses.

6. Plan a program in your Auxiliary to inform its members about the need for nurses and nurse legislation.

7. Help to secure funds to meet the quota of fifty cents per member which has been estimated to keep our fund in force.

8. Any information or counseling should come from one who is informed. Your vocational counselor in high school can do much to help the girl plan her preparatory subjects for entrance to training.

9. Create interest through sponsoring advertisements in your local newspaper or on a community radio program. Place literature in the public library or in public places.

These are but a few suggestions. More definite plans are being released from time to time, and we will pass them on to you.

Mrs. William R. Hornaday, Chairman

WORK FOR THE HANDICAPPED

Services: The Vocational Rehabilitation Division provides occupational counseling and guidance for persons who possess a physical or mental condition which constitutes a vocational handicap. The Division provides artificial appliances, medical treatment and training where necessary to effect suitable placement or to retain the individual in self-supporting employment equal to his abilities and limitations. Loans are not authorized.

Medical treatment must be expected to eliminate or substantially reduce the employment handicap. Only those conditions which are relatively stable and remedial may be treated. Hospitalization is limited to 90 days for any one disability. The Rehabilitation Division does not duplicate the services of other public agencies but does offer counseling service and refers eligible disabled persons to those agencies providing special benefits.

Who is eligible: Disabled men and women over 16 years of age who are residents of Iowa and possess a physical handicap may apply for services if they believe their employability can be improved. Civilians disabled by birth, injury, disease, public or industrial accident as well as disabled merchant marines and veterans who have nonservice connected disabilities may apply.

Cost: Physical examination, vocational counseling, training and placement are available at no cost to the disabled. Medical treatment, occupational

tools and equipment, training, supplies, maintenance and transportation are provided without cost where well established economic need exists. Services are provided on the basis of vocational need and not on the basis of charity.

Where to apply: Names of vocationally handicapped adults who may need rehabilitation services should be reported to the State Office of Vocational Rehabilitation, 415 Bankers Trust Building, Des Moines 9, Iowa. Correct names and addresses as well as a description of the disability should be given in the application. Individuals reported will be given an opportunity to make a formal application followed by personal interviews by field counselors. —*Iowa Health Agencies: A Handbook of Information*

DID YOU KNOW?

That all vehicles used to transport children to and from public schools in Iowa must be equipped with first aid kits whose contents are graded in quantity dependent upon the number of pupils transported?—*Iowa Educational Bulletin*, January, 1948.

That the Polk County Chapter, Iowa Division, American Cancer Society, has an information center at 521 Sixth Avenue, Des Moines, which will "provide information to the public and assist in fund raising activities"?—*Bulletin of the Polk County Medical Society*, January, 1948.

That Dallas County had one of the largest organization meetings in the state in the interest of the Iowa Division of the American Cancer Society? Mrs. H. W. Smith, Woodward, County Chairman, did the groundwork.

UNIVERSITY SCHOOL OF NURSING

Plans for strengthening the teaching in the School of Nursing at the State University of Iowa were approved at a meeting of the Board of Education on February 10, Dean Carlyle Jacobsen of the Division of Health Sciences and Services, announced recently.

Under the new plans it will now be possible to add new instructors and assistant professors, whose primary responsibility will be the instruction of students without having to divide their time and attention between instructional duties and the rendering of service to patients. These additional teachers will be able to supplement bedside instruction given by the nursing staff of the University Hospitals. The augmented staff will be able to give more individual attention to the student and her progress.

The shortage of well-trained teachers in the field of nursing education is very critical, according to Dean Jacobsen, and it is expected that it will require several years before the postgraduate program can be in full operation. Dean Jacobsen stated that the new program in nursing education at the State University of Iowa will help fill the acute need for better trained teachers in the community hospital training schools throughout the state.

WOMAN'S AUXILIARY to the Iowa State Medical Society

Organized May 9, 1929, Des Moines, Iowa

NINETEENTH ANNUAL MEETING

Hotel Savery, Des Moines

PROGRAM

Monday, April 19

9:00 a. m.

Executive Board Meeting—for board members, county presidents and presidents-elect, and past presidents of the State Auxiliary. Mrs. Eustace A. Allen of Atlanta, Ga., national president, will be present.

12:00 noon

Executive Board luncheon. Formal opening of annual meeting

1:30 p. m.

Mrs. Fred Moore, President, presiding

General meeting—

Invocation—

Greetings—Dr. Lester D. Powell, President, Polk County Medical Society

Welcome—Mrs. James E. Dyson, President, Woman's Auxiliary to the Polk County Medical Society

Response—Mrs. Allan G. Felter, President-elect

In Memoriam—Mrs. H. I. McPherrin, Des Moines

Minutes of last annual meeting—

Roll call of counties—

Announcement of committees—

Report of the president—

Reports of state officers and committee chairmen—

Address: "Challenges in the Field of Nursing"—

Miss Marie Neuschaefer, R.N., President, Iowa State Nursing Association

6:30 p. m.

Dinner—Hoyt Sherman Place, 15th and Woodland

Address—Mrs. Eustace A. Allen, President, National Auxiliary

Informal bridge—

Theater party for "Annie Get Your Gun," KRNT Radio Theater

Tuesday, April 20

9:00 a. m.

General meeting—

Reading of minutes—

Reports of county presidents—

Presentation of proposed constitution—Mrs. Elbert T. Warren, Chairman of Revisions

Report of nominating committee—

Election of officers—

Outline of plans for the coming year—Mrs. Allan G. Felter

Recommended budget for 1948-1949—

Election of delegates to the 1949 national convention in Chicago—

12:00 noon

Annual Meeting Luncheon

Guests of Honor—Mrs. Eustace A. Allen; Harold A. Spilman, M.D., President, Iowa State Medical Society; James E. Reeder, President-elect, Iowa State Medical Society

Address: "The World Medical Association"—Elmer L. Henderson, M.D., Louisville, Ky., Chairman of Board of Trustees, American Medical Association

Address: "Public Relations in Medicine"—Fred Ster-nagle, M.D., West Des Moines, Chairman of the Committee on Medical Service and Public Relations

2:30 p. m.

Report of registration committee—

Report of resolutions committee—

Installation of officers—

Adjournment—

3:15 p. m.

Post-convention board meeting—

4:00 p. m.

Tea in honor of county presidents—

Visit to the Des Moines Art Center, Greenwood Park, Grand Avenue and Polk Boulevard

7:00 p. m.

Iowa State Medical Society Banquet and Dance
Hotel Fort Des Moines

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- ADVANCES IN MILITARY MEDICINE**—Made by American investigators working under the sponsorship of the Committee on Medical Research. Edited by E. C. Andrus, D. W. Bronk, G. A. Carden, Jr., C. S. Keefer, J. S. Lockwood, J. T. Wearn, M. D. Winternitz. Associate Editor—Tuckerman Day. Foreword by Alfred N. Richards. Volumes I and II. An Atlantic Monthly Press Book. Little, Brown and Company, Boston, 1948. Price, \$12.50.
- DIABETES MELLITUS IN GENERAL PRACTICE**—By Arthur R. Colwell, M.D., Associate Professor of Medicine and Director of Medical Specialty Training, Northwestern University Medical School; Attending Physician, Evanston Hospital, Evanston, Ill.; Consulting Physician, Wesley Memorial Hospital, Chicago. The Year Book Publishers, Inc., Chicago, 1947. Price, \$5.25.
- ENDOCRINE THERAPY IN GENERAL PRACTICE**—By Elmer L. Sevringhaus, M.D., F.A.C.P., Formerly Professor of Medicine, University of Wisconsin; Director, Endocrine and Nutritional Clinics, Gouverneur Hospital, New York City. The Year Book Publishers, Inc., Chicago, 1948. Price, \$4.
- GYNECOLOGICAL AND OBSTETRICAL UROLOGY**—By Huston S. Everett, M.D., Associate Professor of Gynecology, the Johns Hopkins University, and Associate in Gynecology, the University of Maryland Gynecologist and Gynecologist in Charge of the Cystoscopic Clinic, the Johns Hopkins Hospital. Visiting Gynecologist, the Church Home and Hospital, the Hospital for the Women of Maryland, and the Union Memorial Hospital. Second edition. The Williams and Wilkins Company, Baltimore, 1947. Price, \$6.
- A MANUAL OF CLINICAL THERAPEUTICS: A GUIDE FOR STUDENTS AND PRACTITIONERS**—By Windsor C. Cutting, M.D., Professor of Therapeutics, Stanford University School of Medicine, San Francisco, Calif. Second edition. W. B. Saunders Company, Philadelphia, 1948. Price, \$5.
- A MANUAL OF PHARMACOLOGY AND ITS APPLICATIONS TO THERAPEUTICS AND TOXICOLOGY**—By Torald Sollmann, M.D., Professor Emeritus of Pharmacology and Materia Medica, School of Medicine, Western Reserve University, Cleveland. Seventh edition. W. B. Saunders Company, Philadelphia, 1948. Price, \$11.50.
- MINOR SURGERY**—By Frederick Christopher, B.S., M.D., F.A.C.S., Associate Professor of Surgery, Northwestern University Medical School; Chief Surgeon, Evanston Company, Philadelphia, 1948. Price, \$12.
- MODERN COSMETICOLOGY**—By Ralph G. Harry, F.R.I.C., Certificate of the Royal Institute of Chemistry and Microscopy of Foods, Drugs and Waters, Pharmacognosy, Pharmacology and Therapeutics. Head of the Cosmetic Department, Beecham Research Laboratories, Ltd.; formerly Manager of Toilet Preparations Research Laboratory, Messrs. Lever Brothers & Unilever, Ltd. With a foreword by P. B. MUMFORD, M.D., F.R.C.P., Hon. Dermatologist, the Manchester Royal Infirmary; Hon. Consulting Physician, the Christie Cancer Hospital and Holt Radium Institute; Hon. Physician, Manchester and Salford Skin Hospital. Third revised edition. Chemical Publishing Co., Inc., Brooklyn, 1947. Price, \$12.
- A PRIMER OF CARDIOLOGY**—By George E. Burch, M.D., F.A.C.P., Associate Professor of Medicine, Tulane University School of Medicine; Senior Visiting Physician, Charity Hospital; Consultant in Cardiovascular Diseases, Ochsner Clinic; Visiting Physician, Touro Infirmary, New Orleans; and PAUL REASER, M.D., Instructor in Medicine, Tulane University School of Medicine; Assistant Visiting
- A TEXTBOOK OF CLINICAL NEUROLOGY** with an Introduction to the History of Neurology—By Israel S. Wechsler, M.D., Clinical Professor of Neurology, Columbia University, New York; Neurologist, the Mount Sinai Hospital; Consulting Neurologist, Montefiore Hospital and Rockland State Hospital, New York. Sixth edition. W. B. Saunders Co., Philadelphia, 1947. Price, \$8.50.
- A TEXTBOOK ON PATHOLOGY OF LABOR, THE PUERPERIUM, AND THE NEWBORN**—By Charles O. McCormick, A.B., M.D., F.A.C.S., Clinical Professor of Obstetrics, Indiana University School of Medicine; Consulting Obstetrician to William H. Coleman Hospital for Women, Indianapolis City Hospital, and Sunny Side Sanitarium. Second edition. The C. V. Mosby Company, St. Louis, 1947. Price, \$8.50.
- 400 YEARS OF A DOCTOR'S LIFE**—Collected and arranged by George Rosen, M.D., and Beate Caspari-Rosen, M.D. Henry Schuman, New York, 1947. Price, \$5.
- 1947 YEAR BOOK OF GENERAL SURGERY**—Edited by Evarts A. Graham, A.B., M.D., Professor of Surgery, Washington University School of Medicine; Surgeon-in-Chief of the Barnes Hospital and of the Children's Hospital, St. Louis. The Year Book Publishers, Inc., Chicago, 1947. Price, \$3.75.

BOOK REVIEWS

A PRIMER OF CARDIOLOGY

By George E. Burch, M.D., F.A.C.P., Associate Professor of Medicine, Tulane University School of Medicine; Senior Visiting Physician, Charity Hospital; Consultant in Cardiovascular Diseases, Ochsner Clinic; Visiting Physician, Touro Infirmary, New Orleans; and PAUL REASER, M.D., Instructor in Medicine, Tulane University School of Medicine; Assistant Visiting Physician, Charity Hospital, New Orleans. Lea & Febiger, Philadelphia, 1947. Price, \$4.50.

In this very readable approach to the study of cardiology the authors have integrated the basic sciences and clinical medicine so that a systematic understanding of the subject may easily be obtained. Discussions are brief yet complete, and emphasis is placed on the cardiac problems most often encountered in daily practice.

Rather numerous diagrams and charts are well prepared. The charts are designed to correlate sound records, electrocardiograms, phlebograms and pulse tracings. A very commendable feature is the repetition of illustrations so that the reader does not

have to turn pages to refer to previous figures.

This Primer furnishes a comprehensive and fundamental study of all phases of cardiology and is excellent for the medical student and beginning cardiologist.

G. Y.

DISEASES OF THE NOSE, THROAT AND EAR

By William Lincoln Ballenger, M.D., F.A.C.S., Late Professor, School of Medicine, University of Illinois, Chicago; and HOWARD CHARLES BALLENGER, M.D., F.A.C.S., Associate Professor and Acting Chairman of the Department of Otolaryngology, Northwestern University School of Medicine, Chicago; Surgeon, Department of Otolaryngology, Evanston Hospital, Evanston, Ill.; assisted by JOHN JACOB BALLENGER, B.S., M.D., Research Fellow in Otolaryngology, Northwestern University School of Medicine, Chicago. Ninth edition. Lea & Febiger, Philadelphia, 1947. Price, \$12.50.

For many years Ballenger's text has been a stand-

and reference work in the field of otolaryngology. Like most text books, its seventh and eighth editions particularly were characterized by very sparse additions of new clinical material and the retention of too much obsolete material. The ninth edition has been truly revised and brought abreast of modern practice.

It is divided into five parts. The section on the "Nose and Accessory Sinuses" is well written and reflects many of the newer concepts of nasal surgery so ably advocated by Fomon and others. Fomon's "Typical Rhinoplasty" is freely quoted as a basis for an introduction to methods for correcting the generally recognized shortcomings of the classical submucous resection. This section is not completely devoid of old ideas but is stimulating, and many excellent references are made. The chapter on "Headaches and Neuralgias" of the face and head is a good presentation of some of the problems that are difficult of solution, and the references are quite comprehensive.

Part II is a particularly good presentation of the "Diseases of the Pharynx, Fauces, and the Neck," but the diagnosis and treatment of conditions of the mouth is somewhat scattered and brief.

Part III is devoted to "Diseases of the Larynx." The chapter on "Diphtheria: Intubation" is, in the opinion of this writer, an example of the retention of obsolete material. In the midwest, Intubation Sets are found chiefly in museums. The chapter on "Paralysis and Neuroses of the Larynx" is complete and has been revised to make it an excellent reference work. The chapter, "Defects of Speech," covers this often neglected subject in a stimulating manner. In this third part the authors have included neoplasms, both benign and malignant, of the nose, throat and ear. This arrangement makes for quick, easy review of the subject and is very complete.

Part IV is a very complete coverage of "Diagnosis, Etiology and Treatment of Diseases of the Ear and Adjacent Structures." Lempert's approach is mentioned and his concept of the place of this procedure is included. The chapter on "Non-inflammatory Diseases of the Labyrinth and Eighth Nerve" is well covered. A chapter on "Physical Therapy in Otolaryngology" completes this part.

Part V covers "Bronchology, Esophagology and Gastroscopy." This part, separated from the part on laryngology, seems rather brief, but Tucker and C. L. Jackson have made brevity a virtue in their writing of this subject.

The practice of placing references as footnotes along with the context makes for easy reading and guidance if more detailed information is desired.

The book is well written and comprehensive. It would be improved by the deletion of still more of the obsolete matter. The illustrations are excellent. The printing and paper stock are contributory to the ease with which it may be read.

The book is recommended as a comprehensive reference for the general practitioner and as a valuable addition to the library of the otolaryngologist.

B. M. M.

THE 1946 YEAR BOOK OF ENDOCRINOLOGY, METABOLISM, AND NUTRITION

Endocrinology edited by Willard O. Thompson, M.D., Clinical Professor of Medicine, University of Illinois College of Medicine; Attending Physician (Senior Staff), Henrotin Hospital; Attending Physician, Grant Hospital of Chicago; Metabolism and Nutrition edited by TOM D. SPIES, M.D., Associate Professor of Medicine, University of Cincinnati School of Medicine; Director, Nutrition Clinic, Hillman Hospital, Birmingham, Alabama. The Year Book Publishers, Inc., Chicago, 1947. Price, \$3.75.

This book discusses fully the recent works in endocrinology, metabolism and nutrition. It clearly and concisely discusses many subjects most commonly of value to the general practitioner. Included are articles on endocrinology and especially of interest are those on the recent work with Thiourisol and Radioactive Iodine in thyroid disease. Special attention has been given to a full discussion of metabolism and nutrition with emphasis on the detection and treatment of nutritional deficiencies.

T. K. L.

THE 1947 YEAR BOOK OF GENERAL MEDICINE

Edited by George F. Dick, M.D.; J. Burns Amberson, M.D.; George R. Minot, M.D., S.D., F.R.C.P. (Edinburgh and London); William B. Castle, M.D., S.M., M.D. (Hon.) Utrecht; William D. Stroud, M.D.; George B. Eusterman, M.D. The Year Book Publishers, Inc., Chicago, 1947. Price, \$3.75.

The 1947 Year Book of General Medicine is replete with the recent advancements in treatment, theory and medical facts. It is divided into the following departments: Infectious Diseases, Diseases of the Chest, Blood and Blood-forming Organs and Kidneys, Cardiovascular Diseases, and Digestive Diseases. Each of these includes a rather complete coverage of the various fields as they are associated with general medicine.

Pneumonia and tuberculosis are given considerable space under "Diseases of the Chest." The discussions on streptomycin in acid-fast conditions is very interesting and enlightening. Articles on transfusions, Rh factor and their association with hemolytic anemias are timely and to the point. Under "Cardiovascular Diseases" are found the latest on acute coronary disease as well as discussions on electrocardiography and other heart problems. In the department of "Digestive Diseases" the acute abdomen, management of peptic ulcer, gastroscope and its uses are only a few of the presented subjects.

The articles have been well edited and are presented in concise, easily readable form. Without a doubt the 1947 edition holds many enjoyable hours and "nuggets" within easy reach of the busy physician.

J. E. B.

SOCIETY PROCEEDINGS

MEETINGS

Audubon County

Dr. Willam H. Halloran of Audubon was elected president of the Audubon County Medical Society at a recent meeting. Dr. P. E. James of Audubon was named vice president; Dr. H. K. Merselis of Audubon, secretary; and Dr. L. E. Jensen, also of Audubon, delegate.

Black Hawk County

The Black Hawk County Medical Society met January 20 at 6:30 p. m. at the Elks Club, Waterloo. Dr. Donald E. Cassels of the Department of Pediatrics, University of Chicago Medical School, spoke on "Congenital Heart Disease."

At the February 17 meeting, also held at the Elks Club, Dr. R. T. Tidrick, acting head of the Department of Surgery, State University of Iowa College of Medicine, addressed the members on "The Treatment of Burns."

Boone County

Dr. Robert Shane of Pilot Mound was elected president of the Boone County Medical Society at the group's January meeting. Dr. Ross E. Gunn of Boone was named vice president; Dr. Henry C. Scharnweber of Boone, secretary-treasurer; Dr. Ben T. Whitaker, delegate.

Members of the Society were hosts at a dinner February 10 at the Legion Log Cabin to the members of the board of hospital trustees, the county supervisors, and the Boone County Hospital staff nurses.

Clay County

Dr. Lyl J. O'Brien of Fort Dodge spoke on "Complications of Appendicitis" at a meeting of the Clay County Medical Society at Spencer January 13. Dr. O'Brien discussed the clinical use of new drugs in the treatment of peritonitis, and illustrated the complications of appendicitis by a number of kodachrome slides.

Crawford County

Dr. Robert A. Huber of Charter Oak is the new president of the Crawford County Medical Society. Other officers elected were Dr. John M. Hennessy of Manilla, vice president; Dr. C. Dudley Miller, Denison, secretary-treasurer; Drs. Charles H. Fee, Claudius L. Sievers, and Amandus H. Grau, all of Denison, censors.

Fayette County

The Fayette County Medical Society met January 13 at the Rex Hotel, West Union. Conducting the

meeting were the newly elected officers, Dr. Morris G. Beddoes, president; Dr. Harold L. Schrier, vice president; and Dr. William J. Wolf, secretary-treasurer. Following a 7 o'clock dinner, Dr. F. Harold Entz of Waterloo spoke on "Chronic Prostatitis and Urethritis" and Dr. Cecil W. Seibert, also of Waterloo, spoke on "Vaginitis and Abnormal Uterine Bleeding."

Iowa and Illinois Central District Medical Association

The quarterly meeting of the Iowa and Illinois Central District Medical Association will be held March 24 in the Armstrong Hotel, Rock Island, Ill. Dinner will be served at 6:30 p. m. followed by the scientific program. Dr. David F. Weaver of Davenport will comment on the sound motion picture (in color) entitled "Problem Child," after which it will be shown. Dr. Maurice E. Grier, Professor of Gynecology and Obstetrics at Creighton University School of Medicine, Omaha, will speak on "Prolonged Labor." Discussion will be opened by Dr. Howard A. Weis of Davenport and Dr. Zachary J. Romeo of Rock Island, Ill.

Johnson County

The Johnson County Medical Society met at the Jefferson Hotel, Iowa City, on February 4 for a 6 o'clock dinner. Following a business meeting, Dr. Lawrence J. Halpin of Cedar Rapids talked on "Allergy as Applied to General Practice." Discussion was opened by Dr. G. F. Spielhagen and Dr. W. F. Boiler, both of Iowa City.

Linn County

The Linn County Medical Society met on February 19 at the Hotel Roosevelt, Cedar Rapids. Dr. Jacques Gottlieb and Dr. Frank Coburn, both of the Department of Psychiatry, State University of Iowa College of Medicine, addressed the members on "Psychosomatic Medicine as Related to the General Practitioner."

On March 18 Dr. Willis E. Brown of Iowa City will speak on "Endocrinology for the General Practitioner."

Montgomery County

Members of the Montgomery County Medical Society met January 8 at the Hotel Johnson, Red Oak, for their regular monthly meeting. The physicians heard an address on the "Treatment of Burns" by Dr. John Gatewood of Omaha and another on "Bronchiectasis" by Dr. Harry McCarthy, also of Omaha.

Polk County

The Polk County Medical Society met for dinner and a scientific program at 6:30 p. m. February 18 at the Iowa Lutheran Hospital, Des Moines. Presenting a clinicopathologic conference discussion were Drs. Richard F. Birge, Francis C. Coleman, Kenneth R. Cross, and Julius S. Weingart.

Tama County

Dr. Harry S. Bezman of Traer is the newly elected president of the Tama County Medical Society, succeeding Dr. Stephen G. Dobias of Chelsea who was named delegate. Dr. A. J. Havlik of Tama was re-elected secretary-treasurer and Dr. Angelo Barbieri of Garwin is vice president.

Washington County

The Washington County Medical Society held its monthly meeting January 22 in the Nurses' Home, Washington. Following a 6:30 p. m. dinner, Dr. D. M. Lierle of the State University of Iowa College of Medicine gave an illustrated lecture on "Aids to the Hard of Hearing."

At the February meeting, held on the twelfth at the Nurses' Home, Dr. Willis E. Brown of Iowa City spoke an "Cytological Tests for Cancer," in which he explained the latest tests and asked the cooperation of the Society in making screening tests of large numbers of patients. It was decided to do this, and a committee of three members was appointed to organize the plan and to start it in the near future.

PERSONALS

Dr. Charles J. Baker of Fort Dodge spoke at the Eighth District Iowa State Nurses' Association meeting in Fort Dodge February 11. His subject was "Rheumatic Fever."

Dr. Albert D. Blenderman has opened offices for the practice of medicine in Paullina. He has been serving as house physician at St. Joseph Hospital, Sioux City, since his return from service with the Army Air Forces. Dr. Blenderman received his medical degree from the University of Vermont College of Medicine.

Dr. F. Boes, who re-entered the United States from Germany about a year ago, has resumed the practice of medicine in Davenport. Dr. Boes was engaged in specialized study in Breslau, Germany, prior to the war, and later became a member of the staff of St. Mary's Hospital in Magdeburg, where he was head of the Department of Gynecology until his departure for the United States.

Dr. Ivan E. Brown of Forest City has announced that Dr. H. H. Perman of Wells, Minn., joined him in the practice of medicine February 1. Dr. Perman is a graduate of Washington University School of Medicine, St. Louis, and interned at Minneapolis General Hospital, Minneapolis. After separation from the service he spent six months at Abbott Hos-

pital, Minneapolis, as surgical resident and house physician before opening his own practice in Wells.

Dr. Kenneth Coyne, Burlington, has been given the rank of commander in the naval reserve and will be assigned to the Burlington Division. Dr. Coyne served four and one-half years in the navy during the war.

Dr. Elmer L. DeGowin, Associate Professor of Internal Medicine at the State University of Iowa, has been appointed a member of the newly established committee on blood and blood derivatives of the Division of Medical Sciences of the National Research Council. This committee will act in an advisory capacity to the army, air forces, navy, Veterans Administration, United States Public Health Service, the Atomic Energy Commission, and the American Red Cross on matters pertaining to blood transfusion, blood derivatives and plasma fractions.

Dr. J. W. Doles of the Veterans Hospital staff, Knoxville, talked to the Rotary Club of that city January 21. He discussed the progress that has been made in the promotion of good health in the United States.

Dr. Robert E. Donlin, Omaha, became associated with Dr. Lester W. Savage of Harlan February 2. Dr. Donlin is a graduate of the Creighton University School of Medicine and took his internship at St. Joseph Hospital, Omaha.

Dr. Aubrey V. W. Gould, Jr., of Havre de Grace, Md., has announced his intention to open offices for the practice of medicine in Wilton on April 1. Though still in the army, he expects to be on terminal leave about that date.

Dr. Charles C. Graves, director of the Mental Institutions of Iowa, spoke at a public meeting in Ottumwa January 15. His topic was "Mental Health and You." Earlier in the day he spoke to a group of physicians, attorneys and teachers in the same city. He also addressed the Rotary Club of Glenwood January 29 on the subject of mental hygiene.

Dr. W. B. Hardin has entered general practice with offices located in the Bankers Trust Building, Des Moines. A graduate of the State University of Iowa College of Medicine with the class of 1944, Dr. Hardin served a general surgical residency at Youngstown Hospital Association, Youngstown, Ohio.

Dr. Lee Forrest Hill of Des Moines was made an honorary member of Alpha Omega Alpha Honor Medical Society at a luncheon meeting of the Council on Medical Education and Hospitals of the American Medical Association in Chicago February 9. The meeting was held during the Annual Congress on Medical Education and Licensure. At the time honorary membership was conferred on Dr. Hill, who

is the immediate past president of the American Academy of Pediatrics, it was also conferred on Dr. Edward L. Bortz, president of the American Medical Association.

Dr. Herbert C. Merillat of Des Moines spoke to the Indianola Teachers Club February 16. His subject was "Emotional Disturbances in Children."

Dr. Harold W. Morgan of Mason City, state chairman of the Iowa Division of the American Cancer Society, spoke at a county-wide Cancer Society meeting in Spencer January 18. The purpose of the meeting was for organization of the Clay County unit.

Dr. Roland B. Morrison spoke to the Carroll Rotary Club February 9. The session was dedicated to National Heart week; Dr. Morrison illustrated his talk on the rise of heart disease as a cause of death by using graphs.

Dr. Don O. Newland has joined his father, Dr. Don H. Newland and his father's partner, Dr. Norman C. Knosp, in the practice of medicine at Belle Plaine. He was graduated from the State University of Iowa College of Medicine, served with the Army Medical Corps, and completed his internship at Hartford Hospital, Hartford, Conn.

Dr. Everett D. Plass of Iowa City spoke at the first meeting of the Jefferson County Cancer Organization January 15 in Fairfield. The program included a short movie on cancer.

Dr. William Province, Jr., who has been associated with Dr. James C. Donahue and Dr. Walter E. West at the Bamford Clinic, Centerville, left February 1 for Dubuque where he joined Dr. Alfred B. Nesler in the practice of medicine.

Dr. Gordon E. Rahn has opened offices for the practice of medicine in Mount Vernon. Dr. Rahn is a graduate of the State University of Iowa College of Medicine with the class of 1945. He served his internship at Columbus Hospital, Seattle, Wash., and following that was stationed at the U. S. Navy Hospital, Bremerton, Wash. For the last fifteen months he has been located at the U. S. Marine Hospital, Seattle, Wash.

Dr. James E. Reeder, Sr., discussed the aspects of socialized medicine at a meeting of the American Interprofessional Institute held January 16 in the Mayfair Hotel, Sioux City.

Dr. R. M. Sorensen, head of the Venereal Disease Division of the State Department of Health, has resigned, effective April 1, to accept the position of venereal disease control director for the city and county at Denver, Colo.

Dr. Joseph H. Spearing opened offices for the practice of medicine on February 2 in the location formerly occupied by Dr. Arthur L. Nielson of Harlan. Dr.

Spearing is a graduate of the University of Kansas School of Medicine. He has been serving a residency at Jennie Edmundson Hospital, Council Bluffs.

Dr. Joe M. Standefer of Des Moines has entered private practice in that city following the completion of a residency at Raymond Blank Memorial Hospital.

Dr. Irving Sternhill of Mason City spoke in the Memorial Hall at Goldfield, Iowa, on the subject of "Cancer" January 13.

Dr. Robert Stolley of Burlington has become associated with Dr. F. R. Mehler in the practice of medicine at New London. He began active practice February 1.

Dr. John Tiedeman of Fonda has joined Dr. Charles McHugh in the practice of medicine in Sioux City.

Dr. L. F. von Lackum is now associated with Dr. J. P. Gallagher of Oelwein. He came to Oelwein after completing his residency at St. Lawrence Hospital, Lansing, Mich., and will limit his practice to internal medicine.

Dr. George L. Wadsworth has been appointed superintendent of the Woodward State Hospital by the State Board of Control. He previously was clinical director and head of the Veterans Administration neuropsychiatric program for the state of Maine.

Dr. S. U. Wykoff, who has been located at the Winnebago State Hospital, Wisconsin, since 1927, is now a physician at the Retreat, Des Moines.

Dr. Edgar N. Zinn and Dr. Walter E. Gower of Fort Dodge have entered into a partnership for general medical and surgical practice. Dr. Zinn has been located in Fort Dodge since 1924 and Dr. Gower since 1946.

MARRIAGE ANNOUNCEMENT

Burbank-Morris

Dr. and Mrs. Dean S. Burbank of Pleasantville have announced the marriage of their daughter, Dr. Sylvia J. Burbank, to Dr. John T. Morris, son of Mrs. Ida Morris and the late John T. Morris of Birmingham, Ala. The ceremony took place January 1 in the Methodist Church, Pleasantville, with Rev. Azel L. Smith officiating. Dr. Morris received his medical degree from Johns Hopkins University School of Medicine and Mrs. Morris from the State University of Iowa College of Medicine.

DEATH NOTICE

Risk, Howard, aged 67, of Oelwein, died February 5 at his home following a long illness. He was graduated from the University of Louisville School of Medicine in 1909 and had practiced in Oelwein from 1916 until his retirement in 1942. He was a life member of the Fayette County and Iowa State Medical Societies.



DR. EWEN MacEWEN
Dean, College of Medicine, State University of Iowa
1935-1947

The JOURNAL *of the* Iowa State Medical Society

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Members of the Iowa State Medical Society:

The custom of devoting one issue of the Journal each year largely to contributions from the College of Medicine of the University is one much appreciated by the faculty and administration of the College and University. The late Dean MacEwen often spoke to me of his own appreciation of this gracious action on the part of the Society and the editor of the Journal.

It is fitting, therefore, that the contributions in this issue should stand as a testimony to the ideals of Dean MacEwen, and should be dedicated to the memory of his life and work, for Dean MacEwen's ideals and standards were of the highest. Rugged individualist and stern moralist that he was, he was quick to defend the profession against all the attacks of its enemies, "domestic and foreign," and at the same time to root out weakness, false pride or impairment of standards in the profession and its votaries.

To him the relation of the College to the profession was close and intimate. The purpose of the College was to teach medicine. This meant, to Dean MacEwen, the teaching of students, creating new doctors fit to take their places in a great and an ancient profession. It included an obligation to bring to the practitioner an opportunity for the discussion and demonstration of advancements in the art and science of medicine, an obligation which the Dean did not live to fulfill.

And it emphasized the obligation to care for the sick. It is true that, without the presence of the ill in the University Hospitals, there could have been no clinical teaching; but the sick were not numbers in a book or files in a cabinet. They were human beings, human beings who were ill and who needed to be made whole again. To make them whole again was the test of the physician's art.

Finally, Dean MacEwen believed that it was an obligation of the College to advance the cause of medicine, to aid in the discovery of the causes of disease and of the therapeutic agencies by which they might be cured. And he hoped that the doctor might be a man of integrity and worth to his community, lending his intelligence and influence to the solution of the problems which today confront those who believe in a free, democratic society and wish to see it survive.

As must happen to each of us, Dean MacEwen did not live to see the fulfillment of his dreams. A new administration of the College will inevitably bring some changes in points of view and of the procedures for achieving them. Nevertheless, this College of Medicine will remain dedicated to the high ideals which were the constant companion of Dean MacEwen and to which he gave his life.

Virgil M. Hancher

President

State University of Iowa

COMMENTS ON THE COLLEGE OF MEDICINE

Carlyle Jacobsen, Ph.D.

Executive Dean, Division of Health Sciences
and Services,* State University of Iowa
Iowa City

The opportunity to offer to the members of the medical profession of our state some commentaries on the activities and plans of the College of Medicine is deeply appreciated. The pleasure in making this report is, however, mingled with a feeling of loss for one who in the past had performed this role. The staff of the College, his fellow leaders in medical education over the United States and the medical profession of Iowa have felt deeply the loss occasioned by the death of the Dean of the College, Ewen M. MacEwen, shortly before the opening of the fall semester. He knew well the needs and problems of medical education which I will comment upon in this report.

It is now well over two years since the end of hostilities of World War II. The immediate and urgent needs for opportunity for physicians leaving the armed forces to return to the school and hospital for brief "refresher" periods of several months has passed. Many who desired to enter on residency training have now found openings to pursue specialty education and will soon complete this work. Others who returned directly to their practices have attended postgraduate seminars offered at Iowa City and in the doctor's home community. On March 13, 1948, the last class on the "accelerated" program of the war period was graduated from the Colleges of Medicine and Dentistry. In a way, this class symbolizes the ending of the war period with its immediate aftermath and needs, and the colleges concerned with training in the health sciences can now turn to some of the long-term tasks in medical education.

It is paradoxical, but many current problems of medical education, as of medical practice, arise because in the past our task has been done well. Never has the demand for medical service been so great. The people of this country have come to look upon good health as one of the basic needs and rights—in the same category as food, shelter, clothing and education. Never has the esteem for the services and accomplishments of the individual physician been as high as today, although there is, at the same time, criticism of the ways

in which that service is made available to the beneficiaries of medical science.

One consequence of this well-deserved prestige of physicians has been that many young people seek admission to medical school. Medicine has been fortunate in having enough applicants from whom the more able and qualified are finally selected. At the moment, schools are embarrassed by the unprecedented numbers of students seeking admission. Some private schools which accept applications from all sections of the country, have from 2,000 to 3,000 seekers for the 100 or fewer places in the freshman class of each school. The total capacity of our colleges of medicine is something less than 6,000 students per year. A conservative estimate of the number of applicants seeking admission is 15,000 for the current class. At the State University of Iowa, the ratio of applicants having the minimal qualifications to the number of places in the freshman class is greater than two for one for the next entering group.

Several factors have operated to produce this plethora of applicants: (1) delayed completion of education because of war service; (2) generally favorable economic circumstances that now enable students to attend medical college; (3) the specific assistance of GI benefits for a large group of servicemen, some of whom would never have been able to attend the University and the College of Medicine. It is likely that the pressure of students seeking entrance to medical school will diminish in the next several years, although it seems unlikely that the number of qualified applicants will fall below the number of openings for some years.

Unfortunately it is not possible to expand the facilities for education in the health sciences as readily as in some other areas. Good medical education requires laboratories, clinics and hospitals; above all, it requires inspiring teachers in the basic sciences and in the clinical branches of medicine. During the war, the teaching staff of all schools was seriously depleted; former teachers in medicine, as in education generally, have not returned after the war. Often these physicians and investigators have felt obliged to seek better paying positions in fields other than education. Even if the physical plant were immediately available, the lack of skilled medical instructors would not permit increasing significantly the size of the class now being admitted. The quality of American medical education has been second to none, and it is essential for the quality of future medical service that excellence of instruction be maintained. This urgency to maintain high stand-

*The Division of Health Sciences and Services embraces the three separate Colleges of Dentistry, Medicine and Pharmacy, the School of Nursing, the University Hospitals, the Psychopathic Hospital and the State Bacteriological Laboratory.

ards of professional education—recognizing that the students trained today will, in a very few years, be responsible for our lives and welfare—necessarily places a limit on the numbers admitted. It is not the purpose of medical education in a state university to restrict the number of practitioners, but rather to assure competence among those students graduated from our college.

Medical education today faces a crisis, a crisis that has insidiously been in the making for some years, but is now acute. This crisis pertains to the ability of the seventy some medical schools of this country to provide health care for our nation. It is difficult, perhaps, to accept this cry of crisis at a time when more students than ever before seek to study medicine, when the demand for physicians' services is greater than ever, and, as judged by the cash account, the physician is highly prosperous. Yet these facts serve only to mark in clearer relief the nature of this crisis.

Few of the recognized medical schools of this country can be confident of the financial support necessary to maintain for the next few years their present high level of training, service and research. During the depression years, several private medical schools came dangerously near to closing; few schools, whether privately or publicly supported, were able to maintain research programs; new developments and expected growth were delayed or blocked. The war period masked this growing financial problem of medical education. The postwar inflation has precipitated the desperate financial plight of privately supported medical schools. Although the situation of most publicly supported schools is, at the moment, less critical, it must be recognized that the soundness of medical training rests on the financial health of the many. Immediate assistance in some form is mandatory if the present numbers and quality of medical graduates is to be assured in the future.

Support of medical education has come from four sources: income from endowment funds, current gifts from individuals and foundations, taxes, and tuition paid by students. Tuition fees charged students have never covered the costs of a modern medical education. A reasonable and conservative estimate for the State University of Iowa, excluding the costs of research and of teaching by the medical faculty given to students from other areas of the University, shows that the tuition charge covers about one-fourth the cost of a medical education. Tuition charges at the private schools, which train about two-thirds of our doctors, are two or three times greater than those charged at our State University. Certainly little additional income can be gained from

further increases in tuition charges, and it may well be that additional funds from private or governmental sources will be needed for scholarships and assistance to students if the opportunity for a medical education is not to be restricted to a small economically favored group of young people.

The incomes of foundations interested in health education have declined greatly in the past fifteen years, and such groups have usually adopted, wisely I believe, a policy of assisting schools in fostering new teaching programs and in support of research, rather than by supplementing the general budgets of medical schools. While numerous individuals continue to make gifts to medical education, the magnitude of the present problem is such that it cannot be solved by reliance on generous individuals or foundations. It thus seems inevitable that some help must be given to medical education from tax sources.

What is the magnitude of the financial crisis facing American medical colleges? It is difficult to determine exactly the cost of medical education, but we know that the budgets for the current year for seventy-seven medical schools will exceed \$43,000,000. (This figure, generally speaking, does not include cost of general university administration, plant maintenance, research grants from the government, industries and foundations, or *cost of patient care*.)

In discussing the needs of medical education, President Valentine of the University of Rochester pointed out that of the \$43,000,000 in the current budget, "student fees provide less than \$12,000,000, or 28 per cent, and expenditure per student per year ranges from \$2,000 to over \$5,000. The remaining 72 per cent must be derived from other sources. In its study entitled *Medical Education in the Changing Order*, the New York Academy of Medicine stated that, 'The medical schools of this country will need to double their budgets for teaching and research in 1960.' No authority I have consulted thinks that estimate excessive. All things considered, I believe medical schools now need about \$40,000,000 more per year. This is less than the amount estimated in the New York Academy report, but I believe our schools need that amount now. They cannot wait until 1960.

"How much is \$40,000,000? It is about one six-thousandth of our gross national income. It is about one one-thousandth of the Federal budget Mr. Truman has asked for 1948. It is one-fifth of what Americans spend annually on vitamin pills. It is less than 4 per cent of what Americans spent on jewelry in 1946. It is less than 1

per cent of what Americans spent on recreation in 1942, and less than the receipts from forty-five horse racing tracks in 1939. Nationally speaking, it is pin money.

"If this \$40,000,000 were all capitalized into an endowment yielding 4 per cent, the immediate endowment would be one billion dollars, still only one-fortieth of our proposed federal budget for 1948. But since the \$40,000,000 estimate includes the budgetary needs of the state-supported schools which operate primarily on tax money, the billion for endowment can be reduced accordingly. The state schools turn out between 34 and 40 per cent of our annual graduating classes of physicians. Reduce the one billion dollars for endowment by 34 per cent and we have \$666,000,000, which compares with the \$689,000,000 separately arrived at by Dr. Donald G. Anderson, secretary of the Council of Medical Education and Hospitals of the American Medical Association, as the endowment now estimated as needed by the private medical schools. The two figures are so close that we can accept them and say \$680,000,000 for endowment or some \$30,000,000 annually. Endowment is preferable, but because of the large amount needed, we should look to annual gifts to supplement whatever endowments can be secured."*

President Valentine focused attention on the needs of the private schools. However, many medical schools now supported by money from tax sources are inadequately supported and provision should be made to strengthen the teaching and research of these institutions. Salaries paid to teachers in the clinical and basic sciences in some state institutions are too low to permit competent replacement when the present incumbents retire. The estimate of \$40,000,000 seems conservative, if not indeed too small.

Traditional sources of funds available to support medical education are inadequate to furnish this sum. Governmental subsidy seems inevitable. The significant issue is not whether government aid is desirable, but to work out a plan whereby the government can aid medical education without, at the same time, coming to dominate and control its future. To this end the Council on Medical Education, the Association of American Medical Colleges, the U. S. Office of Education, the U. S. Public Health Service, and not least, the universities and colleges are studying these problems.

Precedent and experience for governmental aid exist among the land-grant colleges, in governmental research grants, in the National Academy

of Sciences, and in the proposed National Science Foundation. The best kind of aid would be in the form of outright grants, through a non-political commission of scientists and educators. Some Federal subsidy seems inevitable. For the continuing welfare and freedom of medical education, adequate administrative safeguards must be provided.

The financial difficulties of American medical education will not be readily resolved, although one need not despair of an ultimate, satisfactory solution. Fortunately, the College of Medicine at the State University of Iowa can now pay adequate salaries to its teachers. Three years ago, our situation was as dark as the national scene is today. Young men questioned whether they should return to teaching after their war service. Those who had remained on the staff during the war years were anxious. Salaries for the assistant and associate professors were so low that it was difficult to hold men or to find adequate replacements. The need remains, however, for modernization of the hospital physical plant and for new scientific laboratories and offices.

In the adoption of the present compensation plan, two important steps were taken: first, the basic salaries of the men at all professional levels in the clinical and pre-clinical years were increased to a good level; and second, provision was made for the men at all professorial levels in the clinical departments to supplement their basic salaries by participation in private practice. Salaries in the College of Medicine are now such as to enable the University to rebuild its staff and to find adequate replacements for the men who will retire in the next three to five years. Competition among colleges of medicine for outstanding leaders and for promising young teachers will continue to be vigorous. The revitalizing of the staff of the College of Medicine is a task that will take several years, with careful scrutiny of the personal and professional qualities of the men invited to become members of the College.

May I now mention some new developments at the State University of Iowa in the College of Medicine and related fields: the establishment of the Radiation Laboratory; plans for the School of Nursing; the founding of the Hospital School for Severely Handicapped Children; and finally, developments in the College of Dentistry.

A year ago, initial plans were laid for the Radiation Laboratory. On Jan. 1, 1948, Dr. Titus C. Evans, Ph.D., a graduate of our own University, took up his duties as chief investigator of this Laboratory. Dr. Evans came to us from the College of Physicians and Surgeons of Columbia

*Paper read before the Congress on Medical Education and Licensure, Chicago, 1948.

University, where he had had extensive experience in the biologic application of radioactive isotopes both in the laboratory and in collaboration with members of the clinical staff. In addition to Dr. Evans, the principal members of the staff will consist of a physicist, Dr. Clinton D. Janney, and a biochemist, still to be appointed. As well as continuing his own investigations in radio-biology, Dr. Evans and the staff will work in close cooperation with members of other departments and in the application of these new technics to clinical problems. The new laboratory will be housed in special quarters now under construction in the Medical Laboratory. The work of the Laboratory has been materially advanced by a generous gift from the Iowa Division of the American Cancer Society for the special and costly research equipment needed for this project.

It is in a measure "carrying coals to Newcastle" to tell a medical practitioner about the shortage of nursing personnel. The estimates on the number of graduate nurses that will be needed for the new hospitals and expanded medical services of this country will long be in advance of the number graduated by our schools of nursing. Serious questions have been raised by physicians and by leaders in nursing education as to the kind of education needed, and the relations of the nursing profession to medicine. Certainly no one at the present time is in a position to give a wise and final answer to these questions.

In the past, the School of Nursing at the State University of Iowa has offered a training program in nursing leading to a certificate, Graduate Nurse, and in cooperation with the College of Liberal Arts, a combined program leading to a degree, Bachelor of Science has been offered. To complete this program six academic years were required. From a practical point of view, the time required was too great.

At a recent meeting of the Board of Education, plans for strengthening the teaching in the School of Nursing were approved. Under the new program, the University recognizes responsibility for training of nurses at three levels: (1) a three-year curriculum open to high school graduates, which will lead to a Certificate of Graduate Nurse (Registered Nurse); (2) a program combining study in the College of Liberal Arts and in the School of Nursing, leading to a professional degree in nursing (Bachelor of Science in Nursing) which will require between four and five years; (3) a series of postgraduate courses in several specialized areas of nursing service, such as public health nursing; psychiatric, orthopedic, obstetric and pediatric nursing; and in conjunction

with the Graduate College and the College of Education, training in the postgraduate fields of nursing service, administration and education. It is thought that some postgraduate students will wish to plan studies so as to earn a Master's degree. The School of Nursing will continue to place major emphasis on training of bedside nurses while developing the more advanced curricula for nursing specialists. At the present time, 197 students are enrolled in the School of Nursing.

During the war years, the staff of the school was seriously depleted. It will now be possible to add new instructors and assistant professors whose primary responsibility will be the instruction of students without having to divide time and attention between instructional duties and the rendering of service to patients. Thus, these teachers will be able to supplement the bedside instruction given by the nursing staff of the University Hospitals, who will continue to carry an important and active role in the educational program of the school, since effective teaching must be centered around the patient. The augmented staff will make it possible to give more individual attention to the student and her progress.

Two features of the new plans for nursing education deserve special emphasis. First is the establishing of a curriculum leading to a professional degree in nursing in contrast to the baccalaureate degree previously given by the College of Liberal Arts. The student's attention and interest will be focused more sharply on her ultimate professional goal. As in the past, the resources of the Colleges of Liberal Arts and of Medicine will furnish an integral part of the nursing curriculum and will supplement and support the professional instruction given in the School of Nursing itself. The second feature worthy of emphasis is the development of postgraduate training in nursing specialties and nursing education. In the past, it has been necessary for Iowa nurses to go elsewhere for this advanced education. This program will aid in developing future leaders in the nursing profession. The shortage of well-trained teachers in the field of nursing education is very critical, and several years will be required before the postgraduate program can be in full operation. The new program in nursing education at the State University of Iowa will help fill the acute need for better trained teachers in community hospital training schools throughout the state.

For many years the College of Medicine has enjoyed an international reputation for its orthopedic services for children. Dr. Arthur Steindler set a standard of high excellence. It is an accom-

plishment in which the people of Iowa share pride. In furthering this tradition, the Iowa legislature at its last meeting created a *State Hospital School for Severely Handicapped Persons* which has as its dual objectives the education and the medical treatment of children with severe physical handicaps. This school is being established at the present time. A large area in a University building adjacent to the Children's Hospital is being remodeled as temporary quarters for the Hospital School until plans and construction of the permanent quarters are completed. The temporary facilities will provide for about eighteen student-patients. During this first period, it will be necessary to restrict admissions to cases carefully selected as to age and type of disability.

In making plans for the permanent quarters, the facilities of the Children's and General Hospitals will be integrated with the work of the Hospital School. It is anticipated that the building, for which the sum of \$500,000 was appropriated, will be located adjacent to the present Children's Hospital and with direct connection to it. In the development of this program, the Iowa Society for Crippled Children and the Disabled has been of great assistance to the University. The scope of the present construction and operation will not fully meet our state needs. It is, however, a large stride in strengthening education and rehabilitation services to this handicapped group. Again the people of the state have given leadership in providing medical service and education for a previously overlooked group of its citizens.

In closing these remarks, may I speak of another professional field related to medical education, namely the College of Dentistry. During the past year it has become possible, because of increased appropriations, to place the staff of the College of Dentistry on the same type of annual appointment as prevails in the College of Medicine, in contrast to the previous appointment for an academic year of nine months. It has also been possible to replace antiquated clinical equipment that was, in some instances, thirty or more years old. The change in appointments will enable Dean Bryan and the faculty of the College of Dentistry to develop postgraduate instruction for the profession of the state. These postgraduate courses will be offered during the summer period when regular classes are recessed.

Education in the health sciences and services, including the operation of the University Hospitals, is the largest single undertaking of the State University of Iowa. It is expensive, but the cost is well repaid in the health services its graduates have rendered to the citizens of the state.

The problems associated with this large undertaking have been numerous and difficult during the period of war and of transition to a changed and, hopefully, peaceful world. The College of Medicine through its staff has enjoyed a position of respect among medical schools. Faculties change and younger doctors fill places of those who have served well. There is good cause to be confident of the future.

POSTGRADUATE MEDICAL EDUCATION AT THE STATE UNIVERSITY OF IOWA COLLEGE OF MEDICINE

T. Lyle Carr, M.D.

Department of Internal Medicine
College of Medicine, State University of Iowa
Iowa City

The average practicing physician has little time to spend with activities not related to his practice, and attempts to keep abreast of current medical concepts are frustrated by lack of time to read even one medical journal to completion without interruption. A few years ago the W. F. Kellogg Foundation, cognizant of this problem, made a grant available to several medical schools throughout the United States for Postgraduate Education. The State University of Iowa College of Medicine was requested to participate in this program. With the aid of this grant it was possible to augment the facilities already in existence throughout the state. The College of Medicine faculty was desirous that a postgraduate program be employed which would permit practicing physicians to participate with a minimum expenditure of time. To expedite this plan Dr. J. T. McClintock assumed the duties of Director of Postgraduate Studies. In association with the late Dr. Ewen MacEwen a tentative plan was developed whereby four general programs were set into operation. These included a Physicians Refresher Course in General Medicine, the Practicing Physicians Monthly Clinical Conferences, Extramural Consultation Clinics and Short Formal Courses.

The Physicians Refresher Course was designed primarily for physicians returned from military duty. This course was given from January 14 to April 13, 1946, and because of existing facilities had to be limited to fifteen physicians. The staff of the departments of Medicine, Surgery, Obstetrics and Gynecology, Pediatrics and other specialties participated in the presentation. At weekly intervals, guest speakers augmented the views of our own staff.

Although this course served an immediate need it was too unwieldy for practicality. Therefore,

as a result of conferences with many of the physicians and their various county medical societies, a second general plan was formulated. This was designed to aid physicians in the clinical problems they were encountering every day. It was to meet these problems that the Physicians Monthly Clinical Conferences and the Extramural Consultation Clinics were organized.

The University Hospitals are in the unique position of having all their patients referred to them by physicians in the state. Even though these patients do not necessarily constitute a clinical problem to the referring physician they represent an excellent source of clinical material. Recognizing this, the Physicians Monthly Clinical Conferences were begun during September, 1946. These meetings are now routinely held during the last week of each spring and fall month. The dates for 1948 are as follows:

March 29-April 2	September 27-October 1
April 26-April 30	October 25-October 29
May 24-May 28	November 22-November 26

On Monday, the Department of General Surgery conducts the program. There follows on Tuesday, Obstetrics and Gynecology; Wednesday, Urology and either Ophthalmology or Otolaryngology; Thursday, Pediatrics and Orthopedics and Friday, Internal Medicine, Dermatology and Neurology. The afternoon of each day is usually devoted to a round-table discussion where the visiting physicians present many of their clinical problems for group discussion. During 1947 there were 276 physician days spent in attendance at these conferences. More could have been accommodated, and this in turn would have resulted in even more valuable round-table discussions with a resultant greater exchange of ideas. It is to be hoped that this aspect of the postgraduate program will be even better received this year.

At the suggestion of several county medical societies the Extramural Consultation Clinics were initiated in the fall of 1946. The clinics are held only at the request of the members of a county medical society and are conducted in their most available hospital. These clinics are designed primarily to be of service to the general practitioner. Consultants are at present limited to the following fields of medical practice: internal medicine, surgery, obstetrics, gynecology, pediatrics, dermatology, neurology and psychiatry. At least two staff members from different fields chosen by the county society participate at each clinic. Patients for the clinics are those the local physician is desirous of presenting to the visiting consultants. With the exception of obstetric and gynecologic patients, clinical examination and discussion of diagnosis and treatment are made before the physi-

cians in attendance. Three extramural consultation clinics were held in the fall of 1946. They included Charles City, Jefferson and Decorah. A total of approximately sixty physicians were present. During the summer and fall of 1947 clinics were repeated in Charles City and Decorah and requests for such clinics were filled in Red Oak and Estherville. Several of the county medical societies invited members of surrounding societies to participate. An average of nineteen physicians attended each clinic.

These clinics are given without expense to the county medical society. Full details as to dates and necessary arrangements will be furnished upon a request sent to the Director of Postgraduate Studies.

Many departments in the College of Medicine have established special courses in their respective fields during previous years while others have organized rather broad courses. The schedule of these short formal courses during 1948 is as follows:

		Registration Limited to	Fee
Internal Medicine	March 31, April 1, 2	20	\$ 25.00
General Surgery	May 24, 25, 26, 27	20	25.00
Obstetrics and Gynecology	April 5, 6, 7, 8, 9	14	25.00
Otolaryngology	December 6, 7, 8, 9	25	50.00
Ophthalmology	Tentatively in May	20	150.00

Guest instructors, specialists in their respective fields, will assist the departmental staff in conducting these courses. The details are available upon request.

In addition to the above activities, all physicians are welcome to attend any medical school teaching activity at any time. A permit from the office of the Dean will admit them to any function. The practitioner may, if he so desires, arrange a period of time to suit his convenience, and attend ward walks, conferences and clinics. With this thought in mind a schedule of the various departmental activities follows:

Internal Medicine	E.K.G. Conference	Wednesday	11:00 a.m.
	Seminar	Thursday	4:00 p.m.
	Staff Conference	Friday	9:00 a.m.
	Student Clinic	Friday	11:00 a.m.
	Gastroscopic Clinic	Daily	8:00 a.m.
Surgery	Pathologic Conference	Thursday	7:30 p.m.
	Seminar	Friday	4:00 p.m.
	Student Clinic	Saturday	11:00 a.m.
Obstetrics and Gynecology	Check Clinic	Daily	1:15 p.m.
	Student Clinic	Monday	11:00 a.m.
	Pathology Conference	Saturday	8:00 a.m.
	Staff Conference	Saturday	9:00 a.m.
Radiology	Film Reading	Daily	8:00 a.m. and 1:00 p.m.
Pediatrics	Pediatrics X-ray	Monday	4:30 p.m.
	Conference	Monday	4:30 p.m.
	Student Clinic	Wednesday	11:00 a.m.
Neurology	Staff Conference	Friday	11:00 a.m.
	Check Clinic	Daily	1:00 p.m.
	Student Clinic	Tuesday	11:00 a.m.
	Physiology Seminar	Wednesday	8:00 a.m.
	Pathology Seminar	Thursday	5:00 p.m.
	Pathology Seminar	Saturday	8:00 a.m.
Dermatology	Skin Pathology	Tuesday	10:30 a.m.
	Mycology	Friday	10:45 a.m.
Anesthesiology	Conference	Daily	4:00 p.m.
	Seminar	Saturday	8:00 a.m.

Psychiatry	Out-patient Conference	Monday	3:30 p.m.
		Wednesday	3:30 p.m.
	Staff Conference	Friday	3:30 p.m.
		Daily	9:00 a.m.
Otolaryngology	Check Clinic	Daily	2:30 p.m.
Urology	Student Clinic	Thursday	11:00 a.m.
Ophthalmology	Check Clinic	Daily	8:00 a.m.
	Seminar	Sunday	10:00 a.m.
Anatomy	Seminar	Thursday	4:00 p.m.
Hygiene and Pre-ventive Medicine	Seminar	Wednesday	4:00 p.m.
Physiology	Seminar	Wednesday	4:30 p.m.
Pathology	Clinicopathologic Conference	Monday	3:30 p.m.
	Seminar	Tuesday	1:00 p.m.
Biochemistry	Seminar	Monday	4:30 p.m.

A separate schedule of ward rounds in the various clinical departments is included for the convenience of those physicians who may wish to attend this aspect of the teaching program.

Internal Medicine	Daily	9:00 a.m.
Surgery	Saturday	8:00 a.m. (Grand Rounds)
	Daily	Forenoon
Obstetrics and Gynecology	Daily	9:00 a.m.
Pediatrics	Monday	9:00 a.m. (Grand Rounds)
	Daily	Forenoon
Neurology	Daily	9:00 a.m.
Dermatology	Daily	9:00 a.m.
Otolaryngology	Daily	7:30 a.m.
Urology	Daily	8:30 a.m.
Ophthalmology	Daily	8:00 a.m.

A special invitation is extended to physicians to attend the weekly Clinicopathologic Conferences in the medical amphitheater, Monday, 3:30 p. m. The cases chosen for publication in the JOURNAL OF THE IOWA STATE MEDICAL SOCIETY are representative of these discussions. It is the earnest desire of the faculty of the College of Medicine that the postgraduate program will be extended and improved. Suggestions for accomplishing this aim will be welcomed.

RESEARCH IN THE COLLEGE OF MEDICINE

Research is an integral function of any college of medicine and in past years much creditable work has come from the State University of Iowa. Funds for research have been a problem here in other years and they still are, but it is believed that the Central Scientific Fund will prove extremely helpful in the future, not only in providing more money for research but adequate technical help as well. Further expansion of the staff will provide the necessary time required to do investigative work.

During the war years, laboratory research except as it was directed towards the war effort, was practically abandoned and clinical investigations were seriously limited. Following the war and the discontinuation of the accelerated program for medical students, renewed interest in investigation has been possible. This article is merely a review of many of the problems currently under study by the various clinical and

pre-clinical departments in the College of Medicine.

Clinical Departments

Dermatology

A clinical study is being carried out concerning the part played by occlusive vascular disease in ulcers of the legs and an intense search is being made for the cause of inflammatory ringworm in Iowa. It is thought that the latter effort is being rewarded by findings which will soon appear in print.

Internal Medicine

Division of General Medicine

1. *Hematology*: Research activities continue in hematology as they have for many years. Studies are in progress on blood coagulation mechanisms in thrombocytopenic states and in uremia. An effort is being made to evaluate the clinical effectiveness of several dyes and the protamines in patients with bleeding tendencies. The clinical evaluation and application of certain newer drugs, such as the nitrogen mustards, urethane and folic acid is under study. The problem of iron metabolism continues under investigation.

2. *Endocrinology*: In conjunction with the Departments of Pediatrics and Obstetrics the problem of diabetic control with reference to the appearance of arteriosclerosis is under study. Furthermore the problem of fetal mortality in diabetic women is under survey by this same group.

3. *Cardiology*: The statistical analysis of the clinical aspects of all of the cases of complete auriculoventricular heart block seen at the University Hospitals is in progress.

4. *Gastro-enterology*: A new method has been developed for the extraction of enterogastrone, thereby obtaining a more potent product. The technic for producing ulcers in the rumen of the rat has been modified and by using the Shay rat, enterogastrone has been standardized. An attempt is thereby being made to use the method as a yardstick for measuring the activity of antacids. The antacid effect of aluminum dihydroxy-amino acetate has been so studied and is being published. The composition of enterogastrone is being studied by the electro-phoretic method of Tselius.

5. *Blood Transfusions and Related Subjects*:

Preservation of Blood. Various blood preservative solutions are being evaluated by the study of the survival of the erythrocytes in the circulation of the recipient after transfusion. The

circulating blood volume is determined and the inagglutinable red cells are estimated at various times during a period of 60 days.

Mechanism of Hemolysis in Anemias. Patients with various types of hemolytic anemia are being studied by the procedure of cross-transfusion. Their red cells are transfused into normal persons and those of normal donors are transfused into the patients. In each case the survival of the transfused red cells is measured.

Blood Volume Changes in Certain Disorders. Measurements of the circulating blood volume are being made on patients in hemorrhagic shock, those receiving transfusions or parenteral solutions, those in cardiac failure, and patients with various anemias. The determinations are made with the dye T-1824.

Peritoneal Irrigation. Dogs are being given prolonged peritoneal irrigation with various solutions to determine the mechanical difficulties, the changes in the blood volume from shifts of fluid across the peritoneum, and the clearance of urea through the peritoneum. This is being done with the cooperation of the Department of Surgery.

Mechanism of Isosensitization in Pregnancy. Serologic studies are being made in cooperation with the Department of Obstetrics and Gynecology in cases of erythroblastosis fetalis. The development of Rh and Hr antibodies is being followed as well as their excretion in the fluids of the mother.

Treatment of Nephrotic Edema with Serum Albumin. With human serum albumin furnished by the American Red Cross patients with nephrotic edema are being treated to determine the value of the material as a diuretic agent.

Clinical Study of Antithyroid Drugs. A series of over 100 patients has been studied for periods up to four years. All have thyrotoxicosis and have received either thiouracil or propylthiouracil. The course of the disease under the influence of thyroid inhibitors is being studied as to the ultimate outcome of the disease.

Division of Nutrition

This section conducts an extensive research program in the field of nutrition. At present the following problems are under study:

1. Influence of mineral oil on carotene and vitamin A blood levels.

2. Vitamin C levels in blood in patients receiving salicylate therapy. (In conjunction with the Division of Physical Medicine.)

3. Nitrogen losses in cases with carcinoma who are receiving estrogenic therapy.

4. Nitrogen utilization in severe burns. (In conjunction with the Department of Surgery.)

5. Influence of nicotinic acid on ketosis induced by a high fat diet in alloxan diabetic rats. (In conjunction with the Department of Anatomy.)

6. Thiamine excretion in alloxan diabetic rats. (In conjunction with the Department of Anatomy.)

7. Nicotinic acid excretion as it is influenced by low thiamine intakes.

8. Influence of high thiamine intake on blood sugar levels and insulin requirement in well controlled diabetic children. (In conjunction with the Department of Pediatrics.)

9. Thiamine excretion and physiologic function on low thiamine intake. (In conjunction with the Department of Physiology.)

10. Presence of salmonella in eggs. (In conjunction with the Department of Hygiene and Preventive Medicine.)

11. Temperature changes in cooked food during cooling and storage. (In conjunction with the Department of Hygiene and Preventive Medicine.)

12. Excretion of sodium on 200 milligram sodium intake. (In conjunction with the Division of General Medicine.)

13. Choline as a lipotropic agent in liver disease. (In conjunction with the Division of General Medicine.)

14. Nitrogen utilization in the aged. (In conjunction with the Department of Urology.)

15. Presence of thiamine in excreta from ileostomies and colostomies.

Division of Physical Medicine

The University has recognized the need for training physiotherapists and has instituted a program on the graduate level. A program of research is an integral part of the endeavor. In conjunction with the Department of Physiology the biologic effect of high frequency and ultra high frequency currents is being studied. Some of the results have been published. The problem involved the development of an apparatus to measure the output of infra-red generators for comparison with the energies produced by high frequency currents.

The effects of several drugs have been investigated and research in this direction continues. The experience with curare in the treatment of poliomyelitis during the 1947 epidemic is soon to be published. It is known that theophylline increases coronary flow but it has also been determined that it increases the flow of blood in the femoral arteries. A new preparation of this drug combined with sodium glycinate has been developed which overcomes some of the undesirable

side effects and allows much larger doses to be tolerated. The effects and mode of action of the salicylate drugs are being extensively investigated. The effects of salicylates on gastric secretion and ulcer inhibition in the Shay rat will soon be published. The Departments of Physiology and Biochemistry are cooperating in these studies.

Neurology

1. By means of animal experimentation an attempt is being made to prove or disprove the theory that periarteritis nodosa is produced by abnormal sensitivity to some exciting factor.

2. A long-time program for the following of ruptured disc patients, both with and without operation, is under way. No accurate evaluation of the procedure of operative removal of the ruptured disc can be made until this is done.

3. The effect of cytarome C and its effect on cerebral oxygen exchange is being studied.

4. A clinical review is being made of cases of subdural hematoma, diagnosis, treatment and prognosis.

Obstetrics and Gynecology

General Laboratory

1. *Comparison of the Potency of Various Estrogens in the Human Female.* The relative potency of estrogenic compounds used in human therapy is known to vary with the assay animals used in standardization tests. The only reasonable approach to clinical potency is to use an objective test in groups of women. The minimal effective dose of each estrogen is being determined by the degree of restoration of vaginal cornification induced in menopausal women.

2. *The Nature of the Action of Chorionic Gonadotrophin.* The nature of the human placental hormone (chorionic gonadotrophin) has been assumed, on the basis of results obtained in infantile rats and mice, to be follicle stimulating (F.S.H.) in small doses and luteinizing (L.H.) in large doses, although such action had never been demonstrated in the human female. It has been shown that the normal function of this hormone in the woman is to maintain the functional corpus luteum into the early weeks of pregnancy. This human demonstration has completely changed the rationale for its clinical use in women and it has been shown that effective doses are about 10 times as large as those which have been employed empirically.

3. *Efforts to Prolong the Effectiveness of a Single Dose of Chorionic Gonadotrophin.* In keeping with efforts to prolong the effectiveness of a single dose of a drug by delaying its absorption,

chorionic gonadotrophin has been administered in oily emulsions and suspended in wax and oil. Preliminary results suggest that this protein hormone is absorbed so slowly that efforts further to delay its absorption are not indicated.

4. *The Rate of Excretion of Chorionic Gonadotrophin in Normal and Abnormal Pregnancies.* Serum and urine concentrations of chorionic gonadotrophin are being determined in women with normal and abnormal pregnancies. Preliminary results suggest that there is a much more constant clearance of this hormone through the kidneys than is commonly thought. It is anticipated that when the studies are extended to diabetic and toxemic patients, it will become apparent whether there is any hormonal imbalance in these states, as has been claimed by some investigators.

5. *Fluid Balance in Women with Toxemias of Late Pregnancy.* It has been assumed that pregnant women have a greater than normal tendency to accumulate water in the extracellular fluid compartment, since they are so prone to edema. Normal pregnant women were placed on a diet with a constant sodium intake for several days, and were then given various amounts of fluid orally or intravenously and the effects of several drugs were determined. Over short periods, fluids, per se, were shown to be ineffective in eliminating tissue fluids, while mercurhydriin and salyrgan excited a marked excretion of sodium as did ammonium chloride and the zanthines, but to a less extent than the mercurials, although they were better than water alone. Hypertonic solutions given intravenously have more of an antidiuretic effect and are not so effective as isotonic solutions.

6. *The Effect of Sedative Drugs on Urinary Output.* It has been concluded that morphine acts as an antidiuretic by producing release of pitressin from the posterior pituitary. A series of women (mostly in the last month of pregnancy) were given morphine before or during the intravenous administration of 5 per cent dextrose, and on another day were given the same amount of fluid intravenously but received no morphine. On the "morphine day" there was a marked diminution of urinary flow for about eight hours, usually followed by a compensatory diuresis. Two patients with diabetes insipidus also showed definite suppression of urinary flow after morphine was given. The urinary suppression following morphine administration does not appear to be due to any action of the posterior pituitary, but further work will be necessary to determine its mode of action.

7. *The Possibility of Producing a Decidual Endometrium in an Ovariectomized Woman by*

the Use of Progesterone. It having been shown that chorionic gonadotrophin will maintain a functional corpus luteum and thus produce a decidual change in the endometrium in a normal woman, progesterone was administered to ovariectomized patients to learn whether a decidual response could be elicited. In a small group of such patients typical proliferative and secretory changes have been produced in the endometrium, but no decidual reaction was obtained with the doses employed. It is planned to repeat the experiment, increasing the daily dosage and the duration of the administration.

8. *Attempts to Devise a Technic for Obtaining Anterior Pituitary Hormone from Human Urine.* Pituitary hormones are proteins and for that reason have not been separable from the other proteins of the gland. This foreign protein component in commercial anterior pituitary extracts has interfered seriously with their clinical use. By using Kaolin to absorb the hormone from human urine, it has been possible to achieve as good recovery as by any other method. Further development of the method should make possible the utilization of urine from postmenopausal and castrated women as a plentiful source of human pituitary hormone. It is now being used as the assay method for gonadotrophins in the urines of patients with hypogonadism, who frequently excrete excessive amounts of these hormones.

9. *Evaluation of the Papanicalaou Technic as a Screen for Genital Cancer in Women.* During the past year the Papanicalaou vaginal smear method for the detection of genital malignancy has been applied to the study of 2,000 women over 30 years of age admitted to the University Hospitals, as well as in 1,400 women in the State mental hospitals. Pelvic examinations have been done and biopsy material obtained on those patients whose smears contained suspicious cells. Four carcinomas were found in patients at Mount Pleasant. The studies on those at Independence are not yet complete. Several early and unsuspected malignancies have also been found among the University Hospital group. The conclusions thus far are that a technician of unusual skill and experience is required and that the screening procedure is tedious and time-consuming, but is useful in sorting out those individuals who demand careful pelvic examination and biopsy.

Virology Laboratory

This laboratory has been in operation for such a short time that it is possible only to indicate the general nature of the problems that are under consideration. The chief objective is to determine what, if any, place the viruses and related

infectious organisms may have in the etiology of pelvic disease in women, a field which has so far barely been touched. Cultures and serologic technics will be employed to study pelvic lesions of an inflammatory nature in which there is no demonstrable proof of bacterial invasion. Pleuropneumonia-like organisms have been implicated in pelvic infections within recent years but evidently no sustained effort has been made to learn how common they may be. The old theory that all pelvic inflammatory disease is due to gonococcal infection unless another bacterium can be isolated is no longer tenable, and the present study will be directed to learning what part the viruses and Rickettsiae may play. Tissue-culture and chick-embryo technics will be employed, as well as serologic methods. After organisms have been isolated, they can be identified by complement-fixation and neutralization tests and by cross-immunity studies.

There has been a suggestion that maternal infection with *Toxoplasma* may be related to certain stillbirths and also to fetal developmental anomalies. Women who have given births to still-born infants or to monsters will have their blood tested for the presence of neutralizing antibodies. Experimentally, the possible teratogenic effect of viruses on the developing fetus will also be studied.

In cooperation with the Endocrinologic Laboratory, it is also planned to study the influence of pregnancy and menstruation, and of the various female endocrines on the inactivation or enhancement of virus infections.

Clinical Investigations

1. All cases of vulval carcinoma seen since 1926 are being studied to evaluate the effect of the more radical operative attack employed in more recent years.

2. As a complement to the study on abdominal hysterectomy recently published from the department, all vaginal hysterectomies performed since 1926 have been analyzed both for immediate and late results. This report should appear later this year.

3. In an effort to reduce the fetal mortality among diabetic women some clinics advocate hormonal therapy during pregnancy with delivery at thirty-seven weeks gestation by cesarean section. All pregnancies in diabetic women since 1926 are being studied to determine the over-all fetal mortality, and to learn the period in pregnancy when the fetal deaths occurred. In an attempt to discover conditions that may predispose to fetal exitus all pregnant diabetics are now being studied and therapy advised by a team consisting of

a member of the staff of this department, together with an internist and a pediatrician. Moreover, hormone excretion studies are being carried on to check the observations of eastern observers.

4. *Prophylactic Penicillin Administration in Obstetric Patients:* Penicillin has been employed so indiscriminately on febrile obstetric patients, that there is a scarcity of controlled data on its value in the prevention of puerperal infection and in the treatment of such conditions.

A study to test its prophylactic value was begun in February, 1946. Since then, alternate parturient patients have received 300,000 or 600,000 units of penicillin in oil and wax at the onset of labor and 300,000 units twenty-four hours later, with the control group receiving no medication aimed at control of infection. The results of this study are being tabulated. Some data have also been accumulated on the penicillin resistance of certain strains of organisms present in the treated group.

5. In cooperation with the Department of Ophthalmology, the relative efficiency of penicillin and silver nitrate in the prophylaxis of gonorrheal ophthalmia is being studied by controlled bacteriologic technics.

6. *Prolonged Labor.* Cases of prolonged labor at the University Hospital are being compared with those occurring in another hospital. In the first group, Dührssen's incision and extraperitoneal cesarean section were frequently employed, whereas treatment in the second institution was largely non-operative. The fetal salvage in the two groups will be compared and an attempt made to determine as accurately as possible the time of fetal death. The analysis will also try to learn the time after cessation of progress in labor when it is logical to assume that no further advance can be expected.

7. *New Analgesic Drugs.* In collaboration with the Departments of Anesthesiology and Pharmacology, an attempt is being made to evaluate two new drugs as obstetric analgesics. The new compounds, structurally related to demerol, are An-148 and NU-1196. Morphine is employed as the agent with which to compare the analgesic effect, the fetal respiratory depression, the side effects, et cetera, of the new drugs. To exclude the effect of inhalation anesthetics, some form of regional block is employed for the actual delivery. An-148 was soon found to be unsatisfactory and further study was abandoned. NU-1196 is a moderately strong analgesic, which has low toxicity, is rapidly eliminated, and produces little respiratory depression. At the high dosages, there was evidence of some fetal respiratory depression with mild neonatal asphyxia. In the mother such doses pro-

duced an effect approximately that of $\frac{1}{8}$ grain of morphine, but the analgesia was of shorter duration.

Ophthalmology

1. An investigation into the etiology and an evaluation of therapy of corneal lesions are being conducted.

2. A similar study is being made into the causes and treatment of uveitis.

3. An evaluation of antibiotics and new drugs with reference to the eye is being made.

4. An extensive study in the prevention and treatment of ophthalmia of the newborn is under way (with the cooperation of the Department of Obstetrics).

5. A study is being conducted on the physiology and respiration of the retina.

6. A similar physiologic study is being made of the cornea.

7. An extensive investigative and experimental program is being conducted in ophthalmic surgery. One phase of this investigation involves a study of operations on the cornea for the improvement of vision. This includes keratoplasty, as well as corneal transplantation operations. In addition a continuous study is being done of all phases of intraocular surgery with the hope of improving the end result and shortening the period of hospitalization for these operative cases.

8. A study is being made on glaucoma in an effort to evaluate present and new methods of medical and surgical treatment of this disease.

9. A program has been under way for several years in the study of plastic surgery about the eye and orbit, directed both towards the improvement of surgical procedures and the improvement of prosthetic appliances. As a result of this program of study, a new and improved method of correcting the defect of removal of the globe has been made. A new type of implant has been developed and an improved artificial eye has been developed.

10. A continuous study is in progress into ocular pathology both from the laboratory and the clinical standpoint.

Orthopedics

The following are being studied:

1. Pathology and physiology of anterior poliomyelitis.

2. The pathomechanics of scoliosis.

3. Arthrogryposis, particularly with respect to etiologic factors and the establishment of a rationale of treatment.

4. The pathomechanical factors involved in

hand and finger deformities resulting from arthritis.

5. The physiology and anatomy of the extremity joints embracing a detailed investigation of all of the joint structures, including an investigation of the innervation of the joints.

6. The effect of prolonged immobilization on the growth centers of the extremities.

7. The effect of androgens on bone metastases from carcinoma of the breast.

Otolaryngology

1. Work is progressing on several aspects of testing hearing by bone conduction, including problems associated with the calibration of bone conduction vibrators, measurement of the mechanical impedance of the head, effect of the mass of the head and type of bone in the mastoid on the transmission of vibration to the cochlea, bone conduction changes resulting from fenestration surgery and the masking of bone conducted sound. The use of pulse tone interruption technics in relation to the standardization of audiometer testing procedures, both group and individual, is also being studied.

2. Studies are being conducted on vestibular responses to thermal excitation using cold and warm water irrigations with particular reference to surgically fenestrated patients who have clinical otosclerosis. The development of electronystagmographic methods of recording vestibular responses to induced excitation is in progress.

3. A re-evaluation of skin grafting technics as applied to postoperative tympanomastoid cavities and a search for new technics which may insure rapid permanent epithelialization of surgically created cavities is under way.

4. Methods, technics and materials by which the endaural surgical restoration of hearing in patients with clinical otosclerosis may be more successfully and permanently secured are being studied.

5. Because of the beneficial results reported from treatment of carcinoma of the breast and carcinoma of the prostate with sex hormones, curiosity has been aroused as to what effect these substances might have on malignancies occurring in organs common to both sexes. Such a study is being conducted with patients who can be offered no other type of therapy.

6. The use of clear plastic substances is being studied for the preservation of anatomic specimens.

Pediatrics

1. Plasma proteins in healthy and sick children (in cooperation with the Department of

Biochemistry) is a study of the separate proteins of plasma, as determined by chemical and by electrophoretic analyses. The study includes (1) changes in the quantity of each component with increasing age of the child, and (2) changes in plasma proteins which occur in chronic disease in childhood. Plasma proteins of children with nephrosis, rheumatic fever, chronic rheumatoid arthritis, and other chronic diseases, are being studied in an effort to learn more about these diseases and devise more efficient treatment.

2. A study of urinary calcium excretion in late rickets and in pregnancy. The latter study is concerned with the possible relationship between excretion of sex hormones and of calcium.

3. The true physiologic energy value of rice for children (in cooperation with Department of Agriculture and other institutions) is of international interest, for methods of computing caloric value of foods differ in different countries. A shipload of rice is computed here as so many food calories. When it arrives in Britain, it is computed as of far less caloric content. Our own methods (Atwater) are fifty years old and adults only were used as subjects. It seems wise to repeat these studies and to use children as well as adults for studies affecting the food intake in populations.

4. Comparison of the efficacy of vitamin D₂ and D₃ for infants. Vitamin D₂ is ineffective for fowls but completely effective for rats. The relative efficacy of vitamins D₂ and D₃ in preventing rickets in other species seems to vary with the species. Vitamin D₂ is much cheaper than vitamin D₃. At present both are used to fortify milk. It is important to learn if there is any difference between the two for the maintenance of good growth and development and the prevention of rickets in the human infant.

5. A study of protein requirement of infants brings up the question, can casein be substituted entirely for lactalbumin in the diet of the human infant? Studies of animals and short-term studies on human adults and infants tend to show that casein is a complete protein for man. Because of its importance, long-term studies are in progress.

6. A study of the requirement of B vitamins in infancy is being conducted on the infants used for the study of protein requirement. The vitamin content of the food is known, the excretion and retention will be determined. Thiamine, riboflavin and niacin excretions are now being studied. The per kilogram thiamine and riboflavin intake of the infant fed human milk is very low compared to that of older children and adults, yet these infants

thrive. Similarly infants fed either cow or human milk have a low niacin intake. A study of the excretion of these substances by well infants is expected to lead to further knowledge of the requirement of these substances.

7. *The calcium, phosphorus and vitamin D requirements of adolescent children is a study of the requirements during various periods of adolescence; the effect of previous dietary regimen on present requirements and the relation of retention to bone and tooth nutrition.

8. *The protein requirement during the period of growth is a study of muscle growth relative to total growth during childhood and of the utilization of protein by children of various ages.

9. *The absorption and retention of fluorine by infants shows the fluorine content of sound teeth is greater than that of carious teeth. The fluorine content of infant food is low unless the infant is given water of high fluorine content. This study is to determine if fluorine of bone meal can be absorbed by the human baby and if the amount retained is proportional to the amount in the meal. Bone meal is added to some cereals for infants.

10. How long a period of sanatorial care is needed by a child who has an attack of rheumatic fever? An analysis of a large number of factors may allow estimates of the length of sanatorial care needed for the child as well as the prognosis.

11. A study of the relationship between nutrition and susceptibility to rheumatic fever is being done in cooperation with the Department of Biochemistry. There is evidence that good environmental care which stresses an adequate diet is very important in the recovery phases of rheumatic fever. More quantitative dietary information about the child prior to the onset of his rheumatic attack is being obtained. Also during various stages of rheumatic activity we are studying plasma protein patterns by electrophoresis and simultaneous plasma chemical analysis. Thus we hope to learn whether or not the nutrition of the host is one of the conditioning factors of rheumatic susceptibility.

12. A scientific study is being made of the psychologic adjustment and emotional stability of all juvenile diabetic patients who have maintained a high level of diabetic control for several years (in cooperation with the Department of Psychiatry).

13. The incidence of tuberculosis among rheumatic fever and diabetic children is being studied.

14. A study of degenerative changes among diabetics is under way (in cooperation with the

Departments of Medicine, Ophthalmology, and Obstetrics and Gynecology). Diabetic patients who were originally under the supervision of the Pediatrics Department and now are adults are being studied for note of vascular damage and the factors that so contribute.

15. Studies in the epidemiology of tooth decay are under way (in cooperation with the College of Dentistry). Confusion still reigns as to the effect specific factors play in the prevention or the cause of tooth decay. For more than twenty years, studies of the progress of caries in various groups of children have been made in an attempt to appraise the effect of dietetic or environmental factors on caries progression rates. The current problem under investigation relates to the progression rates of caries among inmates of the State School for the Feeble-minded at Glenwood under different diet practices and with control groups. The premise held is that the tooth has inherent powers to resist decay if the general health and metabolic processes are functioning at their best levels.

16. As a part of studies in physical growth, physical measurements are made in the routine medical examination of all patients. Studies are being made to correlate substandard measurements with definable factors of nutrition, environment and health. The data tend to confirm the concept that growth is conditioned by living conditions in greater measure than is commonly thought, and that the recognition of poor physique may offer the physician evidence of abnormal states of living even when disease is not manifest. The phase of growth now receiving special attention relates to head size in infants. It appears that measurements of the head may aid the physician in the recognition of chronic intracranial abnormality more readily than can other clinical signs. The size of the head is best expressed in its relation to the length of the infant's body rather than in terms of age.

17. The efficacy of concentrated human serum albumin in lipoid nephrosis is being studied in cooperation with the American Red Cross. Concentrated salt-poor human serum albumin is being administered intravenously to children with lipoid nephrosis to determine its efficacy as a diuretic and in correcting hypoproteinemia. Results so far indicate that it is an effective and safe but very expensive diuretic agent and practically valueless in significantly correcting hypoproteinemia.

18. The efficacy of Fraction I in the treatment of hemophilia is also being studied in cooperation with the American Red Cross. Fraction I is being

*Completed but unpublished.

*Completed but unpublished.

administered intravenously to children with hemophilia to determine its efficacy in reducing the coagulation time of blood. Results so far indicate that it is a safe and effective but very expensive agent. It will probably not replace transfusions of whole blood in the treatment of active bleeding in a patient with hemophilia.

19. A study is being made of the high caloric regimen for the malnourished diabetic child. Severely malnourished children with diabetes mellitus take on the average from eight to twelve months to attain satisfactory proportions between weight and height and that during this period their disease is relatively difficult to control. Severely malnourished diabetic children are being given high caloric diets up to tolerance with a concomitant increase in insulin dosage. On this regimen they have gained weight rapidly, thereby shortening the period of hospitalization, making control of their disease easier and making them happier children.

20. An analysis of poliomyelitis in children from 1937 through 1948 is under way. Records of children with poliomyelitis are being studied from various aspects. It is hoped that this study may assist in the evaluation of the early and end results of treatment before and during the Kenny era.

21. Children with well-regulated diabetes mellitus are being studied to determine if the administration of massive doses of thiamine (30 mg. per day) will lessen their insulin requirement. Those admitted to the hospital also are being studied to determine if they may be in a mild or advanced state of thiamine deficiency.

Psychiatry

I. Studies in Primary Behavior Disorders and Psychopathic Personality. These groups include many of the delinquents and chronic criminals, the ne'er-do-wells and wanderers, the inadequates and misfits; in fact the "black sheep" of our population.

A. Constitutional and personality studies.

1. Many patients are characterized by electro-encephalographic abnormality. Relationship to the patients' electroencephalograms to those of their parents is now under study with the hope of eventually understanding the genetic laws involved.

2. A comparison of the familial backgrounds of these two groups of patients with other groups of psychiatric patients and normal controls is near completion.

3. A comparison of the Rorschach pattern (personality test) of these patients to those of their parents is now in progress.

B. Physiogenic studies.

1. The incidence of illness and cerebral injury in the antecedent histories which formerly had not been considered of etiologic significance is being compared with the incidence in other psychiatric and control groups.

C. Psychogenic studies.

1. The operation of environmental, social and cultural factors is being evaluated.
2. New interviewing technics for the eliciting of such information are being devised.

D. Symptomatology is under study with the hope of subdividing the large groups into subgroups with their specific etiology and course.

II. Research Program in Schizophrenia and Depressions.

A. Psychopathologic studies: Data is being obtained through the use of seventeen different experimental technics with the hope that a more fundamental knowledge may be obtained of the psychopathology. It is hoped that some of the fundamental relationships will thus be established.

B. Biochemical studies (in cooperation with the Department of Pharmacology): Evidence has been accumulated which suggests the operation of an enzyme disturbance in schizophrenia. At present it is being sought for in the carbohydrate oxygen-reduction system through the employment of a sodium amytal tolerance test.

III. Follow-up studies (current studies).

A. The course and prognosis of untreated patients with psychoneurosis.

B. The course and prognosis of patients with schizophrenia treated by electro-shock therapy.

C. The course and prognosis of patients with primary behavior disorders and psychopathic personality.

IV. Psychotherapeutic Studies: Technics of psychotherapy are under objective study through use of a laboratory equipped for viewing and recording the patient-physician interview.

V. Miscellaneous Studies:

A. In cooperation with the Department of Anatomy—the effects of restricted hypo-

thalamic lesions (which themselves evoke marked behavior changes) on the electroencephalogram of the cat.

- B. Construction of an automatic low-frequency analyzer for use in electroencephalography. Use of this instrument, when completed, will extend the range of research in electroencephalography by providing quantitative voltage versus frequency plots at selected frequencies.
- C. The symptoms, psychopathology, treatment, course and prognosis of patients with exhibitionism.
- D. A survey of asymmetries in amplitude in contralateral homologous electroencephalograms is being conducted to gain a better understanding of the probabilities of asymmetries and their meaning.

Radiology

1. The Radiation Research Laboratory began to function about Jan. 1, 1948, in temporary quarters. Construction of the first unit is underway, and equipment is being purchased. Radioactive isotopes will be ordered as soon as the facilities are ready and actual research will be initiated in the spring, or summer, of this year. Much work needs to be done before the experiments can be started, however, since various types of apparatus have to be secured, installed, and calibrated. One of the first projects to be undertaken is a survey of the "background" or general radiation intensity in the various rooms of the Medical Laboratories and of the Hospital.

2. All members of the staff will join in a project to study cancer by means of radioactive isotopes. One type of cancer (probably a rat carcinoma) will be studied. The metabolism of malignant tissue will be compared to that of the nonpathologic cells. This will be done by comparing the way in which they utilize radioactive elements and labeled compounds. If neoplastic tissue shows the tendency to concentrate any radioactive element or tagged compound, attempts will be made to utilize it as a possible means of radiotherapy. In addition to the group project, each staff member will investigate problems along the lines of his particular interest. There is interest in the mechanism of radiation injury and in attempts to modify the radiosensitivity of cells and in the development of suitable apparatus for measurement of the various types of radiation used and in the modification necessary to meet the unusual need in certain technically difficult problems. It is hoped that the staff will soon be joined by a biochemist whose chief interest will

be in synthesizing compounds to contain radioelements, and in following these materials through the various stages of metabolism. The members of the staff also expect to collaborate with members of other departments who have investigations underway which might be facilitated by using radioisotopes. Although not a service laboratory, the members of the staff will be available for consultation and will collaborate in joint research programs insofar as time and facilities permit. If any of the techniques or procedures turn out to be of clinical importance (either in diagnosis or therapy), their utilization will probably be carried out through the Department of Radiology, or through some arrangement made jointly by several departments in the hospital.

3. Although not a teaching department, the laboratory will assist, to a limited degree, in the training of graduate students who are especially interested in some phase of radiobiology. The student will be responsible to his particular department for fulfillment of all requirements for his degree. The laboratory will provide facilities and supervision of the research for his thesis. The laboratory hopes to offer a one-semester course for a limited number of graduate students. The course will deal with biologic and medical aspects of radiation. Later, the subject will be handled as three separate courses. One of these will stress the biologic, one the chemical, and the other will emphasize the measurement aspect of the problems.

Surgery

Division of Anesthesiology

1. Three research problems are underway at the present time. One of these is an attempt to produce regional and perhaps general anesthesia with electrical currents. Analgesia in localized areas has been effected, but it is hoped that the process can be developed to the point of useful application.

2. A second problem is a study of the effect of the various depressant drugs used for premedication on the respiratory minute volume exchange.

3. A third problem is a study of the diffusion of radio-opaque local anesthetic drugs into the intrathecal space.

4. In process also is the preparation of a protocol from which it may be possible to develop a film on the transportation of oxygen and carbon dioxide and the application of modern methods of oxygen therapy.

Division of General Surgery

1. A number of clinical investigations are underway. In the past few months these have in-

cluded evaluation of testosterone in far-advanced carcinoma of the breast, the use of the Kuent-schner intramedullary nail in pathologic fractures, late follow-up and study of survival rates in gastric carcinoma, results in decortication of thoracic empyema, results of treatment in lung abscess, results in strangulated femoral hernia, gallstone obstruction, sigmoid volvulus, and a number of others, the results of which are reported from time to time at the Surgical Seminar.

2. Clinical investigations being carried out by the neurosurgical section include the pathogenesis of so-called decerebration in the traumatized human and a clinical test for dysphasia. In addition, investigations are being carried out in neurophysiology and anatomy as follows: (a) the electrophysiology of the basal ganglia in health and disease; (b) the spinal subarachnoid septa; (c) construction of a stereotactic three dimensional analyzer for determining the coordinates of all deep structures in the brain, and (d) the kinesthetic apparatus of the extra-ocular muscles and their relation to perception of the third dimension.

3. Other experimental work is being done on methods of determining patency of coronary artery circulation and surgical approaches to the problem of myocardial infarction.

Urology

The following studies are being made:

1. The clinical study of renal tumors in order to aid in the early diagnosis of these tumors. This is being done also in conjunction with the Cytology laboratory where specimens of urine from suspected cases are studied for the presence or absence of tumor cells.

2. The study of the causes and possible chemical dissolution of renal stones. The most recent work on this is with the use of enzymes which will dissolve the organic components of some of these stones.

3. Clinical and experimental study of the treatment of carcinoma of the bladder with high frequency currents.

4. The treatment of carcinoma of the prostate by the use of estrogenic substances.

5. Clinical study in the use of antibiotics in treatment of renal tuberculosis.

6. Clinical study of transurethral methods of treatment of the enlarged prostate with particular emphasis upon the occurrence of uremia after this operation.

7. The clinical study on the treatment of diverticulum of the bladder by transurethral methods.

8. Anuria and oliguria: clinical and experimental study of the effects of interruption of the

nerve supply to the kidney and renal decapsulation in the different types of anuria.

Pre-Clinical Departments

Anatomy

Investigative work in the department of Anatomy is concerned with a variety of interests, including endocrinology (especially the endocrinology of reproduction), nutritional influences in certain aspects of metabolism, the effects of brain lesions upon behavior and brain electric potentials in animals and observations upon certain aspects of the cancer problem. Among the projects are the following:

1. A long term study of hypogonadism in man. This includes a classification of hypogonadal states, replacement therapy, effect of male sex hormones on the human testis, and the relation of plasma and seminal fluid levels to hypogonadism.

2. A study of carcinoma of the mammary gland in the rat, including cytologic observations on tumors developing under the influence of estrin, and the effect of aqueous orchic extracts upon established cancer.

3. The effect of organic and inorganic iodine upon hypothyroid rats, including observations upon reproductive activity, growth, various ductless glands and upon plasma levels of organically fixed iodine.

4. Functions of ovaries transplanted to spleen.

5. Studies of relaxation of pelvic ligaments.

6. An extensive investigation of the effects of male sex hormone upon spermatogenesis and the production of gonadotrophic hormones in the rat.

7. A program of histo-chemical research involving, initially, observations on the testis.

8. A study of alloxan diabetes and the influence of some nutritional factors upon carbohydrate and fat metabolism. At present observations are being made upon the effect of niacin and niacinamide on fat and carbohydrate metabolism in the rat and in man. The effect of intestinal disinfectants on thiamine requirements of the adult rat and on the excretion of thiamine in normal and diabetic animals is also being studied.

9. Studies on ovarian function in the rat and cat, including ovarian cysts in hypothyroid animals and the effect of pregnant mare's serum on the immature ovary. The nutritional aspects of this program are in part supported by a grant from the LaRoche Foundation.

10. Certain tests for early occult carcinoma are in progress.

11. Extensive observations are being continued upon the surgical anatomy of the hand and neck.

12. Neurologic research has long been a concern of the department. At present, as in the past, the brain stem is the principal object of study. The relationship of subcortical regions, especially of the hypothalamus, to behavior in animals has come in for considerable scrutiny. The relationship of rather precisely located and restricted hypothalamic lesions to postoperative behavior of a savage type in cats is being further studied as are the effects of such lesions upon appetite and so-called "hypothalamic obesity." A program of study of the relationships of subcortical regions to the patterns of cerebral electrical potentials or "brain waves" is also well under way. The anatomic aspects of all these phases of the work receive major consideration. Ancillary investigations are instituted as personnel is available.

In the past several years many improvements in the department's facilities for research have been made, including both space arrangement and equipment. Still further readjustments to make space which is available more usable remain to be done. The staff of the department is, however, well set up for gross and microscopic study of the morphologic aspects of their investigative programs, for certain types of chemical work, for a variety of routine as well as highly specialized surgical procedures and for the care of the animal colonies. Some phases of the work is made possible by access to electronic equipment, including multi-channel amplifiers and recording devices recently acquired by the College.

Bacteriology

1. Intensive investigational work on the virus of influenza began during the last war. Active research work involving this virus has been carried on since this time.

This laboratory was among those chosen to investigate the vaccine used by the army to immunize against types A and B influenza virus. In studies designed to detect human carriers of influenza virus, much was learned about separating the virus from its specific antibody. The investigation to determine the incidence of human carriers is still in progress.

Interesting information has been derived from studies on the adaptation and toxicity of the influenza virus. The ability of the virus to adapt to untoward temperature and growing conditions has been demonstrated. A good portion of the pioneer work on the toxicity of the virus was performed in this laboratory and additional studies, now in progress, are uncovering some very

interesting information in this regard. The research program discussed above has been made possible in part by grants from the United States Army.

2. A study has been under way for several years to determine the value of the grasshopper mouse for nutritional and bacteriologic work. This small animal is quite sensitive to certain vitamin B deficiencies, and is more susceptible to certain microbial infections than are other laboratory animals. For example, the animal is several times more sensitive to diphtheria toxin than is the guinea pig.

3. Research interests have also centered around various aspects of bacterial physiology. The current research program in this phase of bacteriology is being supported in part by grants from the Williams-Waterman Fund for the Combat of Dietary Diseases and the United States Public Health Service.

4. Studies on the nutritional requirements of such bacteria as *Staphylococcus aureus*, *Proteus morganii*, and *Listerella monocytogenes* are being investigated; the metabolism of amino acids and sulfur-containing compounds by bacteria is being studied; the characteristics of certain urea-splitting bacteria are being examined; the function of the vitamin pantothenic acid in metabolic processes is being determined; and other new projects are being initiated.

Biochemistry

1. Recently, the Exton-Rose tolerance curve was compared to the normal curve in a series of cases.

2. As clinical facilities are available, other projects are continued, such as the effect of inositol on pseudo-hypertrophic muscular dystrophy.

3. In cooperation with the Departments of Medicine and of Pediatrics, factors affecting the production of gastric ulcers in rats with ligated pylorus, and the influence of anti-acid compounds are being studied. In this connection, entero-gastrone is being prepared and purified with a view to the elucidation of its chemical and physiologic properties.

4. Other problems include the nature of the action of acetylsalicylic acid, electrophoretic studies of the proteins in plasma, urine, and other body fluids in health and in various diseases, such as rheumatic fever, nephrosis, nephritis, cirrhosis, etc.

5. Studies are being continued on the effects of fine mechanical subdivision on the chemical, physical, and nutritional properties of proteins and polysaccharides.

6. The processes of intermediary metabolism

are being studied, the immediate subjects of the investigations being the inhibitory effect of fluoroacetate and the function of biotin and pantothenic acid. In this connection, the endeavor is being made to isolate various of the enzymes concerned in tissue processes.

7. Research activities in the field of protein metabolism are in progress. Following are the research problems which are at present being engaged in: the comparative availabilities of free and acetylated *l*-, *d*-, and *dl*-tryptophane for nitrogen balance in the human adult; the urinary excretion of tryptophane in the human subject; the relationship of kynurenine to nicotinic acid production; the metabolism of tryptophane by liver brei; the relative rates of metabolism of *l*-, *d*-, and *dl*-methionine; the possible influence of the vitamin B complex upon the availability of *d*-histidine in the mouse.

8. For a long time the Department of Biochemistry has been interested in the stabilization of fats against rancidity and in the role of naturalizers, principally vitamin E (tocopherol) *in vitro* and *in vivo*, and more recently in the synergism of tocopherol with other vitamins in preventing the nutritional muscular dystrophy produced by deprivation of tocopherol.

In the prosecution of these problems, the Department has had the advantage of extra-mural grants-in-aid from industry and from various organizations including The John and Mary R. Markle Foundation, Bristol Laboratories and The Institute of Analgesic and Sedative Drugs (through Medicine), the State Department of Health (through Pediatrics), Smith, Kline and French, Swift and Company, Dow Chemical Company, Proctor and Gamble, and the Nutrition Foundation.

Hygiene and Preventive Medicine

These directed by the Department are:

1. The effect of ultra-violet irradiation on the time and temperature requirements of Staphylococci in the production of enterotoxin.
2. A bacteriologic study of commercially packed frozen vegetables.
3. The effect of polarized light on the growth of certain micro-organisms common to food.
4. A study of the possible sources of contamination of infant formulas in hospitals.
5. A study of curd tension of various milks and modifications of milk for infant feeding.
6. The basic walking load involved in attending the State University of Iowa.

Other research studies in progress are:

1. The application of the electrostatic principle to the study of air contaminants.
2. Methods of controlling air contamination in hospital operating rooms.
3. Studies in the efficiency of bactericidal light.
4. The efficiency of filtering devices in the removal of bacteria, pollens, and spores from the atmosphere.
5. Seasonal pollen and spore counts in the Iowa City atmosphere.
6. Methods of sterilizing books.
7. Methods of culturing intestinal protozoa.
8. Variability of protozoa under refrigeration.
9. Experimental infection of filaria in animals.
10. The reaction of plant antigens.
11. Methods for serologic testing of hemolyzed blood.
12. Studies in rabies.
13. Studies in brucellosis.
14. Studies in the problem of control of milk handling in hospitals.
15. Studies of occurrence of salmonella in hens' eggs.

Pathology

This Department is directing research in the following:

1. Influence of vitamin K on hypoprothrombemia due to factors other than avitaminosis K.
2. Variations in antithrombic and antiprothrombic factors in chicken plasma.
3. Factors which influence localization of intra-peritoneal infection with special reference to fibrin.
4. Normal and abnormal variations in a new clotting factor, the prothrombin conversion factor in plasma.

Pharmacology

1. The analgesic potency and general pharmacology of several new potent analgesic compounds are being studied in man and animals. Hoffmann-LaRoche, Inc. and Parke-Davis Co. grants are aiding this research.
2. A clinical evaluation of one of the new analgesic drugs in obstetrics is being carried out by a Roche Anniversary Fellowship in the Department of Pharmacology.
3. The new analgesic drugs are also being studied along with other narcotics as to their effects on tissue metabolism, with emphasis on the relation of chemical constitution to pharmacologic action.
4. Some interesting pharmacologic and biochemical aspects of schizophrenia are being investigated.
5. The mode of action of quinine and related alkaloids on the growth and metabolism of several

bacterial species is being studied. Emphasis in these studies is on the use of micro-organisms as convenient biologic systems for studying mechanisms of action of drugs other than chemotherapeutic agents. A United States Public Health Research Grant supports this work.

6. Experiments designed to increase knowledge of the relation of chemical structure to pharmacologic activity are being carried out. Such studies promise to offer many short cuts to the synthesis of new therapeutic compounds, having highly desirable pharmacologic properties. United States Public Health funds have been requested to finance the preparation of new analogues of some of the endocrines in furtherance of this general program.

7. Observations in the field of psychiatric pharmacology are being made with mescaline, a compound which produces beautiful colored visions and geometric hallucinations. Both *in vitro* experiments and clinical observations are being made.

Physiology

1. Various problems in thyroid physiology are being investigated. The effects of thiouracil depression of the thyroid on reproduction and growth have been studied in the rat. With the aid of a sensitive micro-method devised in this laboratory, the level of plasma protein-bound iodine is being used in both animals and human patients to evaluate the status of thyroid gland function. The peripheral action of the thyroid hormone is being followed by determinations of the protein-bound iodine in various other tissues, such as liver, muscle and kidney.

In July of 1947 some of the work on dinitrophenols and thyroid function was presented at the XVII International Physiological Congress in Oxford, England.

2. The Department of Ophthalmology is collaborating with the Department of Physiology by giving a graduate course in cellular respiration and directing the research programs of graduate students in this area of research.

3. Studies are in progress on the relationship of the kidney and the adrenal cortex. The classical renal clearance tests are used to measure glomerular filtration and renal plasma flow in normal and adrenalectomized dogs.

4. A study of experimental hypertension of renal origin in parabiotic rats is in progress.

5. A study of a technic for applying constant intravenous infusion to the ambulatory dog is also in progress.

6. Funds from the Graduate College and the College of Medicine have been pooled for the

purchase and construction of modern electronic equipment. Two rooms in the Department of Physiology have been set aside as an electronic unit. Members of several departments have been carrying out research problems in the field of electro-physiology. The organization of a joint laboratory of electronics by the several departments represents a plan to pool equipment and facilities and make them available to the College as a whole.

7. The Department of Physiology and the Division of Physical Medicine are collaborating in a number of research problems. These involve studies on the physiologic responses to various physical agents such as infra-red and high frequency magnetic waves. These studies have been aided by grants from the Baruch Committee on Physical Medicine, Burdick Corporation and other sources.

8. Several research projects are being carried out in the area of neuromuscular physiology. For the past several years these investigations have been aided by grants from The National Foundation for Infantile Paralysis and have been reported in thirty published articles. Current problems under investigation include a search for the conditions most favorable for the recovery of muscle and nerve from the effects of immobilization, inactivity and trauma. A study is being carried out concerning the effects of prolonged states of muscle shortening and spasticity upon neuromuscular function and the effects of various drugs and physical agents upon recovery. An investigation is being carried out concerning the respiratory volumes in patients who have been afflicted with poliomyelitis.

State Hygienic Laboratory

1. The relationship of nitrates in water to methemoglobinemia in infants and animals is being studied.

2. Attempts to improve diagnostic procedures and media relative to brucellosis are being made.

3. At the request of and in cooperation with the United States Public Health Service comparative tests are made on blood specimens received for serologic tests for syphilis twice weekly by:

a. Our routine procedures:

(1) Standard Kline test.

(2) Standard Kahn test.

(3) Standard Kolmer test.

b. Newly developed antigens:

(1) Kline cardiolipin.

(2) Kahn cardiolipin.

(3) Kolmer cardiolipin.

(4) Venereal Disease Laboratory cardiolipin.

(5) Rein-Bossak.

THE STATE UNIVERSITY OF IOWA
HOSPITALS—A CONTINUING
CONTRIBUTION TO THE
HEALTH OF THE PEOPLE

Gerhard Hartman, Ph.D., Superintendent
State University of Iowa Hospitals

Today, when medical service in general and hospitals in particular are preparing for the most rapid period of growth and metamorphosis in their history, nearly every health institution in the country is being re-evaluated.

Two new and significant criteria are being used—the role of the institution in a total program of health care for the immediate community, and the position of that institution in a co-ordinated system extending over a wide area. With these developments in mind it seems timely to examine critically the functions of Iowa's primary medical center—the State University of Iowa Hospitals. For what purposes were these hospitals created and how well have the purposes been met? What will be the position of the University Hospitals in a new, integrated program of medical and hospital care?

Our primary purpose is to provide for the care of the medically indigent. As set forth in the Haskell-Klaus Law passed by the Iowa legislature in 1919, the University Hospitals are authorized to provide medical treatment and hospital care at state expense for any Iowa resident who requires these services but is unable to pay for them. Further provision is made for those who can pay only a part of the costs of care and treatment.

As a leading medical center, the College of Medicine and the University Hospitals fulfill a number of other purposes perhaps equal in importance to the care of the indigent-sick. Among these are professional education to supply competent doctors and trained medical personnel for service throughout the state; research in medicine and many allied fields; statewide consulta-

tion services whereby physicians in all areas receive the benefit of the experience of renowned specialists; and the provision of diagnostic and therapeutic facilities not feasible except at a hospital center of large size.

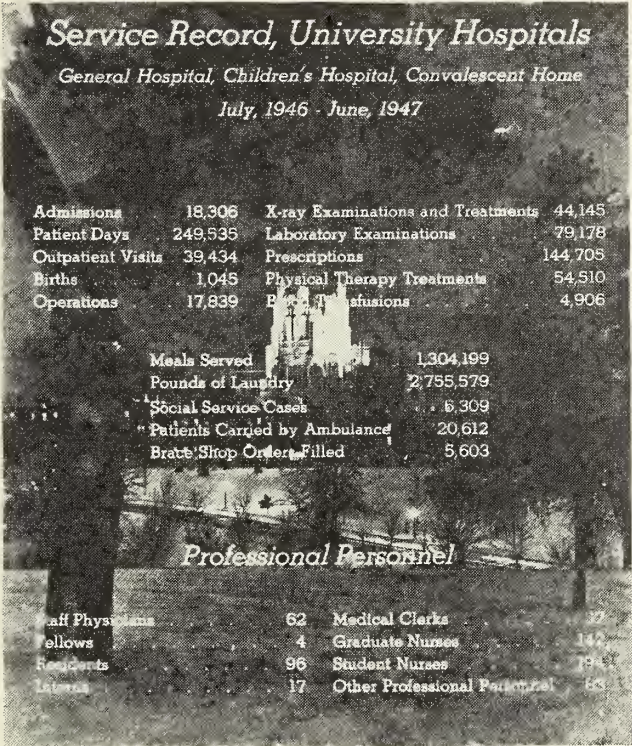
Volume of Service Rendered

The volume of the services performed at the University Hospitals is a significant factor in determining their value to the community they serve, which in this case embraces the entire state. Our General Hospital, which is the fifteenth largest in the United States in terms of bed capacity, ranks ninth among these fifteen in number of patients admitted per year. Among state-owned general hospitals, ours is the fourth largest in the nation and ranks second in volume of patient admissions. The accompanying Service Record for the University Hospitals shows statistically the volume of patients served during the past fiscal year and the extent of some of the many functions performed in achieving this volume.

Because more space has recently been made available for patient care, it is expected that the Service Record for 1947-48 will show a marked increase in all services carried on by the Hos-

pitals. Unused for several years because of personnel shortages, a ward area was opened in October, increasing capacity by twenty-eight beds. During the fall two temporary housing units near the General Hospital were developed for use as overnight accommodations for ambulatory patients, and as a result thirty-seven additional beds within the hospital were released for in-patient care. For the first time in the history of the Hospitals, all patient areas are now being used for patient care, and we are operating at our full capacity of nine hundred beds.

Not only is quantity of service significant, but quality as well. The University Hospitals School of Nursing, complemented by a large staff of graduate nurses, is felt to be one of our best



assurances of a high quality of patient care. In addition to furnishing a constant source of well-trained graduates upon which all hospitals in the state may draw, the presence of student nurses who must receive a modern, well-rounded education in their field keeps our graduate staff alert to the latest and best trends in nursing care. This is equally true in the fields of dietetics, x-ray technology, physical therapy, and occupational therapy, in which extensive educational programs are also conducted within the University Hospitals.

Professional Education

Without the teaching facilities afforded by the University Hospitals, the College of Medicine, could not maintain its position in the highest rank among medical colleges of the nation. Conversely, the best hospital care of the patient goes hand in hand with the best teaching of the medical student, and a teaching hospital usually assures the patient of a high type of professional care at the hands of an alert, scientific and up-to-date medical staff.

Postwar training of young doctors for the medical and surgical specialties has been a nationwide problem since these physicians began returning from military service in 1945. The University Hospitals have expanded their training program to accommodate these veteran doctors and have increased the number of residencies until we now have one of the largest American Medical Association approved programs in the country.

In addition to training for the younger doctors, facilities are provided for continuing education of practicing physicians in the state. Every year hundreds of doctors from all parts of Iowa come to the University Hospitals to confer and to review with the hospitals' teaching staff the latest discoveries and methods of treatment.

As a further step in the direction of fully comprehensive educational opportunities in all fields of health work, a new and unique training program in hospital administration has been inaugurated by the University during the past year, under the joint direction of the Dean of the Graduate College and the Superintendent of the University Hospitals. Designed as an intermediate and advanced program for those who have received at least a minimum of postgraduate academic training or experience elsewhere in the field, the training is divided into two phases: an administrative internship of six to eighteen months' duration, followed by an administrative residency covering another six-to-eighteen-month period. In addition to the many facilities of the University and the Hospitals at Iowa City, selected smaller hospitals in the state are used as

training bases, in order to furnish each student with a varied background of experience.

Role of University Hospitals in State Construction Program

The Hospital Survey and Construction Act has launched the most comprehensive program ever undertaken for the construction of hospitals and health facilities. To insure that these facilities will be built where they are most needed and to promote co-ordination of their services, the Act authorized Federal aid for surveys of need and development of construction programs in each state. Grants-in-aid for construction will be made on the basis of these surveys and programs. The state makes an inventory of existing facilities, and a survey to determine the need for additional ones. It must then draw the blueprint of a co-ordinated hospital system upon which construction of future facilities will be based.

What is the role of the University Hospitals in this co-ordinated hospital system? The heart of such a system, in which every state in the nation would have its own network of hospitals tailored to the needs of the population, is the base hospital, a large group of teaching and research institutions having classrooms and scientific laboratories in addition to its facilities for patient care. The University of Iowa Hospitals, together with the Colleges of Medicine, Dentistry and Pharmacy as well as other University units, represent a model base hospital unit. The United States Public Health Service specifies that "preferably, the base hospital should be associated with a medical school. Here doctors and nurses would receive graduate and postgraduate education. This base hospital would have complete facilities for complex diagnosis and treatment." The University Hospitals, therefore, fulfill the definition of a base hospital and find their place most logically at the center of a co-ordinated hospital system for Iowa.

Nearly thirty years ago the legislature of the state of Iowa provided a plan of statewide hospital and medical care centered at the University Hospitals which anticipated the very plans now being developed by the United States Public Health Service in this and other states. With their ambulance system, the University Hospitals reach out to provide a comprehensive program of hospital service for every county of the state. The total volume of hospital service rendered last year equaled nearly a quarter of a million patient days of care. The contribution which this program makes at the local level in providing readily available and fully staffed hospital beds has received recognition from those charged with devel-

oping the new co-ordinated hospital plan. This is evident in the following statement by Doctor Walter L. Bierring, Commissioner of the Department of Health of the State of Iowa, the sole agency in charge of the Hospital Survey and Construction Program in this state:

"In developing the Iowa hospital plan, every effort will be made to conserve the teaching facilities of the University Hospitals so as to insure adequate undergraduate and postgraduate training of future physicians of Iowa.

"The University Hospitals have a leading and important role in the undergraduate training of the professions concerned. The educational function of the Hospitals for postgraduate teaching is equally of highest importance.

"By closer integration of the University Hospitals with district and community hospitals throughout the state, there is a further opportunity to extend the several programs of postgraduate medical education, as well as the development of a consulting service of great value to the medical practitioners of Iowa.

"In the last twelve years eight out of ten University Hospital patients have been indigents (unable to pay their own hospital and medical bills).

"In recognition of this statewide service, the Iowa hospital plan has assigned 925 beds to the University Hospitals, with an additional 130 beds if required, or a total of 1,055 beds, which is nearly 12 per cent of the estimated 12,483 beds needed for the entire state."

Iowans can be justly proud of the fact that in creating the University Hospitals plan of care for the medically indigent more than a generation ago, they established an institution which has increased rather than diminished in value over the years. By doing their large share in meeting today's new challenge—a total health program for everyone, irrespective of financial status, race, creed, or color—the University Hospitals will continue to grow and flourish—a continuing service to the people of Iowa.

COLLEGE OF MEDICINE
State University of Iowa
CLINICOPATHOLOGIC
CONFERENCE
March 2, 1948

Summary of Clinical Record

This 27 year old man was admitted to the Psychopathic Hospital on March 31, 1947. The entrance complaints were acute anxiety and muscular weakness. The father was a chronic invalid from the age of 35 years until his death in 1937. It was thought that he died from asthma, heart disease, and uremia. The patient was the sixth of eight children. One sister died at the age of 20 years with symptoms initially similar to the patient's and terminating in bulbar paralysis. Another sister died in January, 1946, after an illness similar to the patient's. Before her death she was observed to have voided urine which was very red in color. One brother, now 36 years of age, had a similar illness of several weeks' duration in 1938, during which he had severe pains in the stomach and weakness of the extremities. The brother recovered from the symptoms but was still voiding red colored urine. The eldest sister has weakness of her upper extremities.

In September, 1946, the patient became quite nervous, complained of abdominal pain, and was ill for approximately three weeks. He improved moderately but about Christmas, 1946, he developed irritability, apprehension, anorexia, and backache. About March 1, 1947, symptoms appeared which were first thought to be due to influenza. He was extremely apprehensive, cried frequently, was tremulous, and complained of increasingly severe weakness and generalized pains. He was hospitalized in several institutions where he received sedatives, but the type and amount are not known.

On admission he was in a state of severe anxiety and said that he was going to die. He frequently gasped for breath and complained of constant pains in the abdomen and extremities. His skin was deeply pigmented, particularly around the genitalia. There was evidence of weight loss. The lower and upper extremities were extremely weak, with hypoaactive deep reflexes and moderate muscle tenderness. No sensory changes were in evidence. The body temperature was 99 F. The pulse rate varied from 70 to 140 beats per minute, and his blood pressure ranged from 140/80 to 165/100.

NOTICE

Physicians are invited to indicate their desire to receive books for review through the JOURNAL, specifying the field of interest or particular book wanted. Upon request the JOURNAL staff will write for any new medical book which has not already been received. Address your requests to the JOURNAL, 505 Bankers Trust Building, Des Moines 9, Iowa.

Serologic tests on the blood were negative for syphilis. The hemoglobin was 13 gm. per 100 cc.; the erythrocytes, 4.7 million per cu. mm.; and the leukocytes, 11,000. The blood sugar was 80 mg. per 100 cc. The specific gravity of the urine was 1.010. It was amber colored, acid in reaction, and was negative for albumin, sugar and pus cells. The spinal fluid pressure was not elevated. The fluid was clear and there were no cells. The total protein was 31 mg. per 100 cc., and the Wassermann test was negative.

The patient's condition gradually became worse. The weakness and tenderness of his extremities became much more severe. He developed urinary retention. Port-wine colored urine appeared on April 6, 1947. The patient was transferred to the Department of Neurology on April 7, 1947. The deep reflexes were then absent, and he was beginning to exhibit respiratory difficulty. It was necessary to place him in a respirator, where he died on April 11, 1947. Additional laboratory data included an electrocardiogram which showed sinus tachycardia and the following blood chemical findings: urea nitrogen 29 mg., creatinine 1.0 mg. per 100 cc., serum proteins 6.24 gm. per 100 cc., with the albumin fraction measuring 4.04 gm. and the globulin 2.20 gm.

Clinical Diagnosis

Hematoporphyruria with polyneuritis.

Necropsy Finding

The lesions in this case were very few. There were congestion, edema, and mild collapse of both lungs with areas of acute lobular pneumonia bilaterally. The trachea and bronchi contained large amounts of mucopurulent exudate. There were a few old fibrous adhesions between the left lung and the chest wall.

The spleen was slightly heavier than normal as a result of congestion. There were small collections of adipose tissue around the central arterioles of the Malpighian corpuscles. A few small atheromatous plaques were found in the intima of the thoracic aorta. A few chronic inflammatory cells were found in the portal spaces of the liver.

There were degenerative changes of some of the peripheral nerves. The changes in the neurones were limited to mild chromatolysis and peripheral localization of the Nissl substance in the cytoplasm. There were no inflammatory or necrotic changes.

Necropsy Diagnosis

Acute porphyria, congenital.

Degeneration of peripheral nerves.

Pulmonary congestion and edema.

Subacute tracheobronchitis.

Lobular pneumonia, acute, bilateral.

Chronic cholangitis, mild.

Pleural adhesions, old, left.

Clinical Discussion

Dr. A. L. Sahs (Neurology): When the patient was admitted to the Psychopathic Hospital he stated that he was going to die. He had seen two of his sisters develop the same condition and he was convinced that he was coming down with exactly the same disorder. He had severe but inconstant abdominal pains, and at first these were associated with constipation. They were not unlike those seen in lead colic. It was of considerable interest to note that there was a great deal of pigmentation particularly around the genitalia.

One thinks of several conditions. First of all, there are the neurotic disorders which are characterized by anxiety and weakness. It was evident very soon in this man's illness, particularly after he arrived in the hospital here, that this was an organic state and not a functional disorder. Then several possibilities came to mind once it was established that this man had a polyneuropathy or polyneuritis. One of the things to be thought of in a disorder of this sort is lead colic. That was not carefully investigated here. There was ample opportunity to have done so, but the diagnosis became quite evident as we went along. Other things which one might think of would be polyneuritis due to severe diabetes mellitus; polyneuritis of Guillaune-Barre or the so-called infectious neuronitis or acute febrile polyneuritis. I believe that the important differential point was that the total protein value of the spinal fluid was not increased, and furthermore, that this particular patient had severe abdominal pains. Abdominal pain is usually not a part of the syndrome of the polyneuritis of Guillaune-Barre. These cases have been diagnosed hyperthyroidism because of the accelerated pulse and because of the pigmentation and increased pulse pressure. Certain cases appear to be Addison's disease or at some stage of the process are thought to have hypertensive vascular crises following essential hypertension. The diagnosis was established in this case primarily by the examination of the urine.

Dr. R. B. Gibson (Biochemistry): Porphyria exists in both the congenital form and the idiopathic. Characteristically, when voided, the urine is colorless or reddish and is colored red or the color intensified on exposure to light. There are several types of porphyrins. A solution of protoporphyrin (Type III) is red and intensely fluorescent in ultraviolet light.

The hemoglobin is broken down into the protein globin and heme or hematin. If the iron chloride of hematin is split off and there is reduction along with it, we obtain at least three and possibly nine porphyrins. The porphyrins are formed by four pyrol rings joined together to form a larger ring by CH_3 (methane) groups. They differ in the various side chains on the pyrol rings and from isomerism of the side chains in one of the pyrol rings (Types I and III). If the protoporphyrin (III) opens up, making a straight chain of four pyrol rings, we get bilirubin. There are two isomer porphyrins, type I and type III, which are called coproporphyrins because they were isolated from the feces. These have four acetyl groups as side chains. Uroporphyrins type I and III have eight acetyl groups. To differentiate these porphyrins one from the other chemically, the methyl esters of the compounds are prepared. The melting points of the esters and the crystalline forms are characteristic. The porphyrins show a red fluorescence under ultra-violet light. That serves to detect porphyrins. Urobilinogen as urobilin gives a green fluorescence (similar to acroflavine which may be used as standard in the quantitative determination of urobilin).

Two other conditions of interest occasionally encountered may be mentioned. One is melanin in the urine. The pigment is excreted as melanogen and when exposed to the air the urine turns dark. This is an abnormality associated with melanotic tumors. The amino acid, tyrosine, may be converted by the enzyme tyrosinase into melanin in the melanotic cell. Melanogen is easily oxidized to black pigment by ferric chloride and this is soluble in alkaline solution. A congenital anomaly of tyrosine metabolism is the formation of alkapton or homogentisic acid. Tyrosine and phenylalanine are excreted quantitatively in the urine as homogentisic acid.

Now as to the significance of these porphyrins. The statement is made that the output of porphyrin both in the urine and feces is markedly increased in certain pathologic conditions. The excretion of coproporphyrin I is increased in congenital porphyrinuria, hemolytic jaundice, pernicious anemia, and cirrhosis of the liver due to cinchophen poisoning. In other disease processes (lead poisoning, atrophic and pigment cirrhosis) large amounts of coproporphyrin III are formed and excreted. In the idiopathic type of porphyrinuria, we get the uroporphyrin rather than the coproporphyrin in the urine. Uroporphyrin is not soluble in such substances as chloroform, ether and ethyl acetate, but it will go into solution

in water; coproporphyrins go into solution in ether, ethyl acetate, etc.

Now in the case under consideration, I used a single test called Watson's test and found that the type of porphyrin was a uroporphyrin. This is diagnostic of acute idiopathic type and does not fit in with the picture of congenital porphyrinuria. The Watson test is a very simple test. Take 2 cc. of fresh urine and add to that 2 cc. of Ehrlich's dimethyl-amino-azobenzene reagent and 4 cc. of saturated sodium acetate. We get a red color. We also get this same red color with urobilinogen and with the other porphyrins. Incidentally, you also get it with the melanogen. When you add, then, 2 cc. of chloroform and shake the mixture, uroporphyrin remains in the aqueous solution. Urobilinogen and coproporphyrin are taken out by the chloroform. The melanogen remains in the aqueous layer.

Interest in all these pigments has been intensified in the last year or two by the increasing incidence of infectious hepatic jaundice. In this condition the metabolism of hemoglobin and its products has been of extreme interest and has been given some importance in the diagnosis and prognosis of this disease. We do find certain variations in the porphyrins. We also expect to find and do find variations of other hemoglobin-derived pigments in all conditions where there is a disturbance in the hemoglobin metabolism. This has made the determination of bilirubin in the blood and urine and of the urobilinogen in the urine of interest and importance. We measure serum bilirubin by means of a quantitative van den Bergh procedure giving us the milligrams per hundred cubic centimeters of bilirubin. In the van den Bergh reaction there are two forms of the test, one giving the so-called indirect and the other giving the direct reaction. The direct reaction we obtain always in simple obstructive jaundice and by that I mean obstruction of the bile ducts or failure of excretion due to pathology in the liver itself. So-called hemolytic type of jaundice, which characteristically gives only the indirect reaction, is found in pernicious anemia and familial jaundice. Now where there is a direct reaction there also may be an indirect reacting bilirubin present. There is considerable discussion as to what is an indirect and a direct reaction. If Ehrlich's diazo reagent is added to serum, it turns purple within one minute. That is the direct reaction. If we should measure that with a photoelectric colorimeter at the end of one minute we might call that the direct reaction to bilirubin. At the end of five minutes it is diphasic, and at the end of fifteen minutes to an hour and

a half or fifteen hours the total bilirubin is obtainable. By subtraction you have the direct reaction bilirubin.

A simple procedure (Osterberg) for the indirect reacting bilirubin is to extract the blood serum with chloroform which apparently takes up at least most of it, leaving the direct reacting form behind. Now the question is, what is direct and what is indirect in reactive bilirubin? My opinion is that indirect reacting bilirubin is the free bilirubin present in the serum. If you take a sodium bilirubinate solution and add Ehrlich's reagent, the bilirubin precipitates (at the resulting pH) and is very, very slow in reacting as a precipitate as compared with its direct reaction in serum where it is in a possible non-dissociable combination.

I determine the urobilinogen in the urine by the formation of the urobilinogen zinc salt in alcohol as measured by the green fluorescence. For measuring bilirubin levels in the urine all one has to do is to precipitate the urine at its normal acidity with a little barium chloride. The supernatant liquid after centrifuging all of the precipitated barium bilirubin pigment, can be used for the determination of urobilinogen as urobilin. Urobilinogen, porphyrins and other pigments are in supernatant fluid. Ehrlich's diazo reagent is mixed with the precipitate and it is suspended in alcohol. The characteristic purple color, which can be measured in the electrophotometer, develops after adding a little 50 per cent sulfuric acid to decompose the barium precipitate.

I have certain interpretations of bilirubin-urobilinogen relationship that might be of interest to you. In the hemolytic type of jaundice, bilirubin gives an indirect van den Bergh of 6 to 17 mg. per 100 cubic cc. of serum with little or no bilirubin in the urine. Urobilin and urobilinogen in both urine and stools are markedly increased. In biliary tract obstruction serum bilirubin is increased (often very high) and the van den Bergh is direct. There is bilirubin in the urine. So far as urobilin and urobilinogen are concerned there is none in the stools and urine if the obstruction is complete. In parenchymatous hepatic disease, (congestion, cirrhosis), the van den Bergh will be direct and also indirect, and there will be bilirubin in the urine. The urobilinogen in the stools will be normal or low and the urine may be increased, due to failure of the liver to clear the portal blood of the reabsorbed pigment. The urobilinogen excretion in the urine in these last named conditions is a measure of liver damage.

Dr. Rubin Nomland (Dermatology): Porphyrin in the urine occurs in certain disorders of

the skin. Occasionally individuals with this type of familial porphyria will also present the type of skin lesion of which I will speak very briefly. Porphyrins are photo-sensitizers and produce eruptions which are brought on or aggravated by sunlight. However, relatively few people that we see with eruptions produced or aggravated by sunlight have porphyrins in their urine in excessive amounts. But whenever we see such cases we always look for porphyrins in the urine. The second thing that occurs in individuals that are excreting porphyrins is the development of blisters. Development of blisters occurs in a great many disorders of the skin, usually not very common, and whenever we see the development of blisters in atypical fashion we always investigate the possibility of the porphyrins in the urine, but rather rarely do we find them. So, while a great deal has been written about porphyrins, excretion of porphyrins being accompanied by photosensitive skin eruptions or blisters, these phenomena are relatively rare. I would like to ask Dr. Gibson one question. Does the freshly voided urine show fluorescence?

Dr. R. B. Gibson: No, not until it has been exposed to sunlight.

Dr. E. D. Warner (Pathology): The anatomic changes we find are more or less incidental and in no way characteristic. We do have a peripheral neuritis which could be most any type of peripheral neuritis. We have this degeneration in the cord neurones which again could be anything. The characteristic lesion is in the chemistry as Dr. Gibson has discussed.

Dr. A. L. Saks: This is a case of porphyria with fatal polyneuritis. With few exceptions the condition known clinically as porphyria is a disease entity which depends upon a constitutionally anomalous pigment metabolism which is occasionally familial and rarely hereditary in its occurrence. Such individuals may remain comparatively free from symptoms for many years or give a history of minor episodes extending throughout a period of many years as well. In looking through the hospital cases I found five or six examples of this disorder; one in which the condition of porphyria was found as an incidental condition in an individual who had heart disease.

Certain of these patients will present the picture of acute anxiety or other mental disorders. Occasionally the illness will be ushered in by convulsive seizure, but somewhere along the line will be symptoms of polyneuritis, starting usually with weakness and with pains in the extremities. Less frequently will there be loss of deep reflexes and

sensory changes which may become severe as the disease progresses. If death is to occur, it will usually be caused by severe involvement of the bulborespiratory muscles and death will be due to respiratory failure. So far as the other symptoms are concerned, I might mention the bouts of abdominal pain, severe, crampy in character, and in his instance accompanied by vomiting. Constipation may be a part of the picture and these patients may act very much like patients with lead colic. The abdomen may be rigid. The differential diagnosis of this condition from some acute abdominal emergency may not be so easy. It is interesting to note that 3 of our 5 patients had had at some time an abdominal operation, the diagnosis usually being intestinal obstruction. Sometimes there is hypertension in connection with this disease and at times changes in the vascular system are reported at autopsy. I believe that the diagnosis will be made primarily by thinking of the possibility of this disease in any individual who presents extreme anxiety, convulsions, polyneuropathy and abdominal cramps.

Treatment thus far has not been too effective. It is said that large doses of liver extract or large doses of calcium may influence the course of the disease, but other authors report that this type of treatment is not too effective. I think the important thing is to try to weed out those cases which might be due to some long continued ingestion of a barbiturate preparation. If the drug is stopped one can at least give the patient every possible chance to survive. Pathologic findings have been gone over and these which you saw on the screen are rather consistently found in other cases. There might be some question as to whether there are changes in the sympathetic ganglia to account for the abdominal pain. Those have not been found in the series here. I would like to mention one clinical report which came out in the *Journal of the American Medical Association* in March, 1937, to illustrate the connection between this disorder and the production of the polyneuritis.

This report indicates that a patient was given hematoporphyrin hydrochloride for the treatment of a psychotic depression on the basis that the injection of hematoporphyrin in animals increased their total motor activity. This patient received several intramuscular injections of this preparation and very promptly came down with polyneuritis which was thought to have been due to the injection. She recovered after the material was no longer administered.

Dr. Nomland asked the question about the examination of other members of the family in those

patients who were found to have this disorder: This particular case is the only one in which we have made such examination.

Dr. Warner: In the more chronic stages, can the patient be depended upon to have pigment in the urine, or will there be periods when the urine is free from pigment even though the neurologic changes are progressive?

Dr. Sahs: I am not absolutely sure of the relationship between episodes of progression and the material in the urine. I would think that during the exacerbations there will be evidence of this abnormal pigment in the urine. One other statement which is in order here is that even though the urine is voided as an amber colored specimen, if you suspect this disease, it is a pretty good idea to place the urine in the sunlight for awhile and see whether or not the characteristic color changes develop. We have had occasion to see it turn this reddish or port wine color within a matter of three hours when exposed to the sunlight. If the urine is voided as a dark red specimen and you don't happen to find a positive Meyers test on it, please be a little bit inquisitive about that specimen. Send it over to the chemist, because instead of blood it might be this particular material.

Dr. Nomland: I have discovered this disease only once and that patient had no cutaneous disease. She gave a history of acute abdominal distress some time in the long past with great loss of weight. It sounded so much like acute porphyria that I had the urine examined. She is the only one that I have picked up so far. I have a good friend, however, who is very much interested in porphyrin metabolism as it appears in skin disease, and he tells me that most of the relatives of the individuals that are excreting porphyrins of this type are also excreting porphyrins even though they present no symptoms whatever. That, of course, would not be true if the porphyria were caused by barbitol as Dr. Sahs mentioned.

RESEARCH GRANTS TO STATE UNIVERSITY

Three research grants totaling \$10,000 for various departments of the University of Iowa College of Medicine have been accepted by the Finance committee of the Iowa State Board of Education.

Of the total, \$6,000 is "March of Dimes" money from the National Foundation for Infantile Paralysis. It was accepted by the Finance committee for the Physiology Department and will be used to continue studies of muscular physiology in its relation to poliomyelitis.

STATE DEPARTMENT OF HEALTH

Walter L. Biering

COMMUNICABLE DISEASE SUMMARY (U. S. A.)

The Division of Public Health Methods of the United States Public Health Service released the following report of communicable disease prevalence in the nation as a whole and of urban mortality in ninety-three cities for the week ending March 6, 1948.

Influenza

With little likelihood of a recrudescence of influenza this season, and with a decrease in the number of reported cases for the fifth consecutive week, the disease, so far as the country as a whole is concerned, is about out of the picture for the present season. Currently, 7,429 cases were reported as compared with 9,008 last week, 7,974 for the corresponding week last year, and a five-year (1943-47) median of 5,249 for the week.

This season the highest incidence was reported principally in the states in southern areas. Where identified, it was due to type A influenza virus. Gastro-intestinal symptoms were present in practically all areas, and in most localities both upper respiratory and gastro-intestinal symptoms were reported. In Los Angeles, where the occurrence of epidemic incidence was first reported, there were three separate clinical syndromes: acute rhinopharyngitis; typical influenza-like illness characterized by severe backache, headache, and generalized muscle aching and tenderness; and gastro-intestinal symptoms with nausea, vomiting, diarrhea, and, at times, central nervous system irritation. For lack of better identification, the disease was early reported as due to "Virus X." Later type A influenza virus was identified. An outbreak in a small locality in Texas resulted in 6 deaths in children under 2 years of age and 1 death in a child aged 6. Encapsulated type B *Hemophilus influenzae* organisms were demonstrated in throat cultures from 3 children ill with laryngotracheo-bronchitis.

Poliomyelitis

The incidence of poliomyelitis continues at a low seasonal level—22 cases reported currently

as compared with 20 last week, 52 for the corresponding week last year, and a 5-year median of 26 cases for the week. Currently 6 cases were reported in Idaho. No other state reported more than 2 cases.

Other Communicable Diseases

One case of anthrax each was reported in New York and New Jersey; 2 cases of smallpox were reported in Kansas and 1 case each was reported in Minnesota and Georgia. A case of psittacosis (ornithosis) was reported in New York (Brooklyn). Pigeons had been kept in the yard of the patient's home, and one had died about a month prior to the patient's illness.

Urban Mortality

Deaths during the week in 93 large cities in the United States totaled 9,788, as compared with 9,765 last week, 10,206 in 1947, and a three year median of 9,885 for the corresponding week.

Fatalities From Certain Communicable Diseases in Iowa

The Division of Vital Statistics of the Iowa State Department of Health has recently tabulated information regarding deaths from some of the communicable diseases for the first nine months of 1947 compared with 1946. The number of deaths, and the rate per 100,000 population are presented in the table which follows:

COMMUNICABLE DISEASE DEATHS IN IOWA				
Based on Vital Records for 1947 (first 9 months) and 1946				
Disease	Number	Rate per 100,000	Number	Rate per 100,000
Cerebrospinal fever	11	0.58	18	0.70
Diphtheria	3	0.16	16	0.62
Measles	3	0.16	22	0.85
Poliomyelitis	6	0.32	53	2.06
Scarlet Fever	4	0.21	9	0.35
Whooping Cough	28	1.47	16	0.62

The rates for 1947 are calculated on the assumption that deaths from the selected causes continued through the remainder of the year at the same monthly level which prevailed through the first nine months.

It will be noted from the above table that deaths caused by meningococcus meningitis were fewer in number in 1947 than in 1946. Fatalities from diphtheria in 1947 numbered about a

fifth as many as in the previous year. Similarly, deaths caused by measles, infantile paralysis or poliomyelitis and scarlet fever were much reduced in number in 1947 compared with 1946. On the other hand, whooping cough was responsible for more than twice as many deaths during the months of the past year than in 1946.

MEASLES IN EPIDEMIC PREVALENCE

Measles is epidemic at this time in Iowa and in many midwestern, eastern and southern states. During the first ten weeks of 1948 (through March 6) reported cases of measles in Iowa totaled 4,699. This number is over three times that expected for the months of January and February, based on the monthly average of disease notification covering a past nine year period. According to the reports, the disease is widely prevalent in many counties in the eastern half and including Cass, Ida, Montgomery, O'Brien, Palo Alto and Sioux counties in the western half of Iowa.

Since reporting of notifiable diseases is essential to their control and prevention, it is desirable that reporting be such as to reflect accurately the actual prevalence of disease in counties and urban communities.

During an epidemic period of measles, influenza or whooping cough, use by local health officials of one report card for a disease is satisfactory for reporting multiple cases which come under observation through weeks ending Saturday.

It is scarcely possible for local health officers and attending physicians to secure first hand information regarding all cases of communicable disease which occur during time of epidemic. Dependence needs to be placed also on trained and experienced public health nurses and school nurses who can report their observations to local health officers and in this way assist in bringing about more complete disease notification.

The following article was released recently with the Department's weekly morbidity report to acquaint the public with accomplishments of modern medicine and the essential part which allied professions contribute toward advancement of human health. The article was stimulated by a symposium printed in a special issue of the *Journal of the American Pharmaceutical Association*, that of March, 1947.

The Birth of a New Drug

"An Iowa boy was desperately ill with 'blood poisoning' or septicemia, caused by the same germ commonly found in the purulent matter of pimples and boils. Infection had probably started

in a decayed tooth, then extended to the jaw bone after which the germ invaded the blood stream giving rise to numerous complications including pneumonia and deep abscesses in the thigh and extremities. In critical condition from a disease which, until recent years had been almost uniformly fatal, the boy made a remarkable recovery following expert medical and nursing care with use of a new germ-destroying medicine known as penicillin.

"A current issue of a prominent medical journal describes the healing properties of streptomycin, another antimicrobial agent which helped to save the lives of sixteen infants and young children, all of whom were afflicted with a form of meningitis which formerly caused the death of nearly all of its victims.

"The birth of a new drug would be impossible without prolonged research and combined effort of highly trained specialists in many laboratories and hospitals. The organic chemist who discovers new compounds; the biochemist whose special study is of reactions in living tissues; the bacteriologist or germ hunter; the pharmacologist and pharmaceutical chemist who aim to know about drugs and their preparation; the toxicologist who determines whether a substance is suitable or possibly harmful to human beings; the chemical engineer whose concern is with developing and applying means of manufacture of the new medicine; the physician whose long training and experience enable him to observe meticulously the effects of treatment on the patient, coordinated effort on the part of all these and their associate workers is required to usher each new-born remedy into the world."

MORBIDITY REPORT

Diseases	Feb. '48	Jan. '48	Feb. '47	Most Cases Reported From
Diphtheria	5	8	9	Clinton, Fayette, Iowa, Muscatine, Worth
Typhoid Fever	2	0	2	Johnson, Marshall
Scarlet Fever	215	246	209	Polk, Washington, Clinton, Henry
Smallpox	0	0	0	.....
Measles	2873	1157	72	Clinton, Dubuque, Scott
Whooping Cough .	22	44	101	Cerro Gordo, Des Moines, Polk
Brucellosis	31	30	55	Scattered
Chickenpox	321	429	345	Black Hawk, Des Moines, Johnson
German Measles ..	11	1	2	Dubuque (8), Allamakee, Grundy, Washington
Influenza	28	1	0	Dubuque (26), Jones (2)
Malaria	3	6	6	Dubuque, Marshall, Warren
Meningitis				
Meningococcus ..	7	6	11	Scattered
Mumps	363	361	75	Dubuque, Johnson, Linn
Pneumonia	16	15	20	Des Moines, Fremont
Poliomyelitis	0	6	2	.....
Tuberculosis	94	72	43	For the State
Gonorrhea	71	109	147	For the State
Syphilis	125	232	113	For the State

The JOURNAL of the **Iowa State Medical Society**

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Dean MacEwen Memorial Issue

Again the JOURNAL is happy to present to its readers the annual issue contributed by the faculty of the College of Medicine of the State University of Iowa, dedicated to the memory of the late Dean Ewen M. MacEwen.

This year there has been a slight change in the subject matter presented. As most of our readers are aware, an interesting experiment in medical education has been initiated at the University. It seems appropriate, therefore, that problems of medical education in general, particularly as they affect both privately endowed and state supported medical schools, should be discussed. The post-graduate educational program designed for all physicians in Iowa deserves special consideration. Members of the faculty of the College of Medicine have always been interested in various research problems, and a discussion of research activities now under way has been outlined. Another article deals with the University Hospitals, emphasizing the Hospital School for postgraduate activity authorized by the last legislature.

The atomic age is indeed a fearful one in which to live. Entirely new situations have arisen to face a medical school graduate of today in the practice of his profession. For one thing, he should be able to fluently express himself on medical matters with which he is familiar to groups of the profession, and also be able to translate this material so that it can be easily grasped by the lay public. As a result, the people, including state and local legislators, will automatically turn

to the medical profession for the proper answer to any medical problem.

The more the medical profession talks about psychosomatic medicine the more it will be called upon to do something for patients who are anxious to admit to a physical disability yet who flounce indignantly from the doctor's office when he insinuates that the difficulty is psychosomatic in origin. In view of the rising costs to the public of medical services, we cannot allow our system of voluntary hospitalization and our long and honored tradition of unremunerated care for the sick poor by the best men of the medical profession to be dragged down by any system of socialized care. The newer trend for specialization, even for the general practitioner, is a matter of alarm facing most graduates of medical schools. There is small wonder then that the problem of medical education at the present time is complex, to say the least.

This number of the JOURNAL will afford a better understanding to the physicians of Iowa exactly what is being done at their College of Medicine. We are grateful to the faculty for this information.

"Et Tu, Brute"

News that the American Medical Association has discontinued its Blue Cross hospital coverage and purchased a commercial policy providing hospital and medical protection for its employees comes as a great shock to the doctors in Iowa who have worked hard and long to promote a prepayment insurance plan underwritten by the profession itself. Admittedly the only thing a commercial insurance company can promise in the way of return to a subscriber is a money payment. The commercial company cannot promise hospital care as the hospitals which staff Blue Cross can; it cannot promise medical care as the doctors sponsoring Blue Shield can. It offers a dollars and cents proposition—nothing more, in comparison to the service program offered by Blue Cross and Blue Shield.

It is reported that officials of the American Medical Association stated medical care was not available under a doctor-sponsored program, whereas the policy they purchased covered both hospital and medical care. It is our understanding this is at variance with the facts—that the Chicago Medical Society has a plan which would have been available to employees of the American Medical Association.

We understand, also, that following announcement of the American Medical Association's pur-

chase of commercial coverage, the headquarters office was swamped with calls from industrial concerns in the Chicago area asking whether they, too, should cancel their Blue Cross coverage and purchase commercial protection.

Certainly the officials of the American Medical Association cannot be blind to the fact that such an action on their part deals a body blow to physician-sponsored plans. If nonprofit hospital and medical insurance isn't good enough for them, is there any reason for thinking it is good enough for business firms looking for protection for their employees? They should be cognizant that the very fact they are looked to as the spokesmen of organized medicine places a responsibility upon them to interpret correctly the actions and intentions of doctors throughout the country.

We in Iowa have known from the very inception of Iowa Medical Service that the easiest course to follow would be to write an indemnity policy offering only certain monetary payments to subscribers. Early in our thinking we rejected it because we felt it did not offer as complete protection to the subscribers as a service plan would. Logically, if an indemnity plan is the solution, then probably a commercial company can write it to better advantage than an organization of doctors, but if medical service is the answer, then only doctors can underwrite it.

The doctors in Iowa played an active part in the organization of Blue Cross; they helped procure enabling legislation for it and aided in its early days. Doctors still offer much assistance on the board of directors, and the welfare of Blue Cross is closely tied with that of Iowa Medical Service, our Blue Shield plan. We deplore the action of the American Medical Association in throwing out Blue Cross and accepting commercial coverage. To us it appears to be nothing but a repudiation of all we have tried to provide for the public in the way of nonprofit prepaid medical care.

Another State Meeting

It is a pleasure to hereby extend a personal invitation to the readers of the JOURNAL to attend the annual session of the Iowa State Medical Society which will be held in Des Moines April 18 through 21. Headquarters again will be located in Hotel Fort Des Moines. The program, presented in full in the March issue of the JOURNAL, promises discussions of interest to every physician.

Guest speakers this year are authorities in their special fields. The Eye, Ear, Nose and Throat section, the Iowa Orthopedic Society, the Fracture Committee, the Pediatricians, the Iowa

Anesthesiological Society, the State Society of Iowa Medical Women and the Woman's Auxiliary will meet as customary in special groups. The scientific exhibit will be even larger than usual. Again it is suggested that time spent at these exhibits is stimulating to the doctor as well as the exhibitor.

The annual dinner of the Society will be extended this year to include a dinner dance. You are cordially invited to attend a special luncheon on Monday noon, April 19, sponsored by the Iowa Orthopedic Society, which will feature a round-table discussion on "Cerebral Palsy," led by Dr. Winthrop Phelps of Baltimore. You are also invited to a dinner meeting on Monday evening sponsored by the Fracture Committee with Dr. James S. Speed of Memphis as leader of a discussion on "Treatment of Difficult Unions of Long Bones."

The problem of hotel reservations still remains acute in Des Moines, so be sure and make your own arrangements as early as possible. We shall look forward to welcoming you to Des Moines, for your attendance is necessary in order that the annual meeting will be successful.

Epidemic Pleurodynia

During the extremely hot weather of August and September, 1947, there occurred in Dubuque and vicinity an epidemic of pleurodynia. One series numbered between 30 and 35 cases, but the total was doubtless two or three times that number.

During the Dubuque epidemic, there were several patients whose ailments could not be diagnosed. They were prostrated and had extremely severe headaches and high fever, but there was no pain along the insertion of the diaphragm. In one case there was transitory meningeal involvement. These may well have been atypical instances of infection with the same virus which is supposed to cause epidemic pleurodynia. All of the classical features of the disease were observed, together with some that were obscure, and, as one would expect, the first patient in the series was operated on because of the sudden, agonizing pain in the upper half of the abdomen and the board-like rigidity of the upper abdominal muscles. Needless to say, laparotomy disclosed no evidence of disease of the abdominal viscera. This is the only possible danger to which patients with epidemic pleurodynia are exposed, namely, an unnecessary surgical operation. Such mistakes will doubtless be repeated whenever an epidemic occurs, particularly at the outset, but they could be avoided to some extent if, *during hot weather*, all clinicians would keep in mind the possibility of pleurodynia

when the patient has, in addition to sudden, severe pain in the upper part of the abdomen, a bad headache and a high fever.

Patients with acute appendicitis or rupture of a hollow viscus are not likely to have such severe headache or a temperature as high as 104 or 105° F. within a few hours after the onset of symptoms. Once it is realized that an epidemic of pleurodynia exists, the wary clinician will be in no hurry to rush such patients to the operating room. At the same time, he must be careful not to diagnose the epidemic disease indiscriminately, for people will still be having acute appendicitis, ruptured peptic ulcers, pneumonia, coronary occlusion, and spontaneous pneumothorax.

Institute for Mothers of Pre-School Deaf Children

An institute for mothers of young deaf children, the first of its kind to be held in Iowa, will be conducted May 31 to June 4 at the Iowa School for the Deaf, Council Bluffs. This institution, with the cooperation of various interested groups throughout the state, is sponsoring the project.

For some time it has been evident that the mothers of young children in Iowa need counseling and direction in the solving of problems dealing with their children who cannot hear and speak. Officials hope that a program can thus be initiated whereby parents will receive information which they can take home and use every day in meeting the situations that arise with the development and training of their young deaf children.

Demonstrations with children will be held, showing parents ways to present sense training, beginning lip reading, speech readiness drills and the fundamentals of handling young, deaf children. Lectures on various phases of the child's development—physical, social and psychological—will be given by authorities in the respective fields, and consultations with parents about their specific problems will be held.

Mothers and children who come for the Institute will be housed and fed in Primary Hall at the Iowa School for the Deaf. Mothers will pay no fee for the course, but will be expected to furnish their own transportation to and from Council Bluffs. Invitations are being extended to teachers and students who might be interested in attending the sessions. The number will be limited, and all invited are asked to reply so that scheduling of visitors may be possible.

For further information, contact Josephine Carr, Principal—Lower Division, Iowa School for the Deaf, Council Bluffs.

RIISING HOSPITAL COSTS

Hospital statistics have shown a steadily rising per diem cost for patient care. Since 1943, costs have increased anywhere from 50 per cent to 130 per cent, and the curve continues upward.

This presents formidable questions. Is hospital care being priced out of the market? Are people going to stay away from the hospital because they can't afford to go?

Frank G. Dickinson, Ph.D., director of the Bureau of Medical Economic Research, American Medical Association, presented a paper at the American Hospital Association convention last year in which he gave a statistical report based on hospital service purely on a consumer expenditure basis. While this was based on the last available figures, those of 1945, it is agreed that rising income and costs have followed much the same pattern during the past two years.

He chose to compare hospital cost expenses with seven selected items on which Americans spend income—*physicians* and *hospital services* considered vital to the American people, *recreation* deemed to be semi-essential and four that would be generally classed as nonessential, might even be called extravagance—*alcoholic drinks, tobacco, personal care and jewelry*.

Surprisingly enough hospital care showed up as the lowest figure spent for the items listed. The nation pays as much for jewelry as for physicians care and as much for toilet articles, barber and beauty shop service as for both physician and hospital care. In billions of dollars, Dickinson shows that Americans spend 7.8 for alcoholic drinks, 5.8 for recreation, 2.9 for tobacco, 2.1 for personal care, 1.3 for jewelry, 1.3 for physicians services and .8 for hospitals.

In other words, they spent twice as much for jewelry, four times as much for tobacco and nine times as much for alcoholic drinks as for hospital care.

The progress of medical science has changed medical practice in many respects. With 30,000,000 Blue Cross members, hospital care has been made more easily available and people naturally have become more hospital conscious. This is reflected in the local Blue Cross admissions which have changed from one out of ten to one out of eight.

Considering the increase in personal income, 1945 shows Americans were spending the same percentage of income for hospital care as they did in 1929. During the low income years 1932-33, it was 60 per cent harder to pay for hospital care, but it was 37½ per cent easier to pay for the care in 1945, meaning that income has climbed faster than hospital rates.

There is a constant need of adjustment on the rising charges for hospital care. However, there seems to be no basis for the opinion that hospital care is being priced above the ability of people to pay for it.

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Wright.....	E. M. Smith, Eagle Grove.....	J. R. Christensen, Eagle Grove.....	

*Changes in names of officers are made upon receipt of the county secretary's election report. Hence, for those counties for which no report has as yet been received, the 1947 officers' names are herein included.

VETERANS ADMINISTRATION

DEPARTMENT OF PATHOLOGY, VETERANS ADMINISTRATION HOSPITAL, DES MOINES, IOWA

The Department of Pathology at the Veterans Administration Hospital, Des Moines, Iowa, has been actively engaged in reorganization and expansion to meet the needs of the hospital, both with respect to diagnosis and treatment, and to assume an active part in the teaching program now in progress. This, and similar efforts on the part of the other departments, has resulted in a great increase in the work volume. This is also due in part to a greater number of examinations being performed on each patient, as well as the

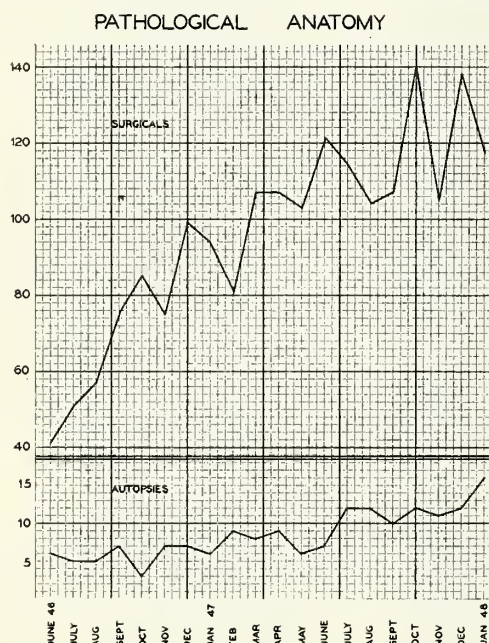


Fig. 1

more complicated nature of many of the examinations. The significant increase in the rate of patient turnover has also played a part in this increase.

Figures 1 and 2 show the increase in the volume of work in clinical pathology and in pathologic anatomy during the past eighteen months.

At no time during this period of expansion have we been able to keep personnel needs abreast with the work load, but it is anticipated that when the latter becomes more stable, that will be possible.

The Department of Pathology assumes an active place in the general hospital program. A schedule of the majority of these events has been published in a previous issue of this JOURNAL.

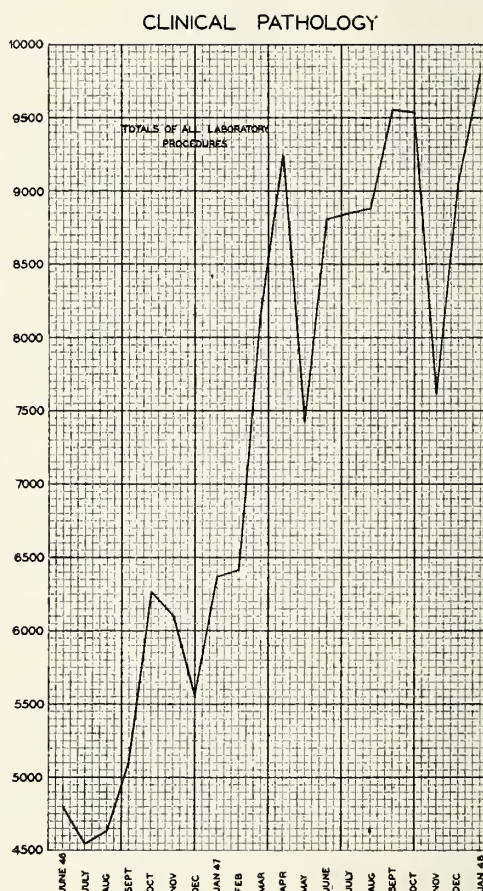


Fig. 2

They consist of a surgical pathology conference held once monthly, a clinical pathology conference conducted bi-weekly, and participation in weekly staff conferences. In addition, several conferences are held within the Department, which consist of a general review once each week of all autopsies performed locally; a conference bi-weekly at which time autopsies from the State University of Iowa College of Medicine, dealing particularly with pediatrics and gynecology, are reviewed, and a subject in clinical pathology is discussed bi-weekly.

The Department of Pathology has recently been approved by the American Medical Association

(Continued on page 172)

NEWS NOTES

from the
Committee on Medical Service and Public Relations

BLUE CROSS-BLUE SHIELD CONFERENCE

A meeting of Blue Shield and Blue Cross Plan representatives was held in Chicago March 6, 1948, to discuss the possibilities of establishing a national organization to act as an administrative head for Blue Cross-Blue Shield in the sale and servicing of national accounts. It seemed the representatives of the two organizations were not too informed about the proposed national plan.

The discussion at times developed to the stage of an open floor debate. There was much controversy regarding the legality of such a proposed national program. The attitude of big business toward a plan of this kind was also considered.

The representative from an eastern state made it clear that his state was definitely not in favor of such a plan. This was also the opinion expressed by a west coast district representative. Since there are so many variations in state insurance laws, it is difficult to voice an opinion relative to particular state situations. It seems that if states were truly interested in establishing a national plan, necessary provisions could be obtained to authorize plan participation in a national enrollment organization. This depends a great deal on the validity of the program and the manner in which it is presented by its representatives.

There were so many motions and amendments to motions during the day that most of the time the chairman didn't know upon which ones action could be taken. This seemed indicative of a lack of information on the part of the plan representatives. It was encouraging, however, that many predicated their remarks by wanting to promote an over-all health program. There was much difference of opinion on the best road to reach the desired goal.

A motion was made and seconded that the committee on public health review the proposed plan and make any changes in its organization that would make it more desirable.

A vote of confidence was taken on the proposed plan and it was indicated that the majority was in favor of some type of a national organization.

Twenty-four voted in favor of a national organization while eleven voted for complete abolition of any such proposed national program.

It is the hope of the health committee, representing both plans, that any alterations necessary to make the plan more desirable can be effected between now and the last of March so that it can be presented for opinion at the conference in Los Angeles.

Don L. Taylor

LABOR'S VIEW ON MEDICAL CARE

The problem of adequate medical care and attention is a great concern of all Americans, particularly at this time, for our national health is a prime factor in national defense. Any approach towards analyzing the problems of health must be taken with the consideration—will this lift the health of all the people without undue hardship on any group?

We realize that the medical profession in America is the best in the world. However, there are problems that have not been approached with the complete vigor that is truly American. I refer to the problem of mental health, the study of allergies, the respiratory infections, epilepsy, and fungus and skin diseases. The inadequate approach must not be directed against the medical profession, but I think that we may validly criticize them for not offering leadership to get enough research stimulated to meet the problem.

It is not fair that we should expect the men in the medical profession to subsidize a medical system. However, we must not turn away from systems that will furnish adequate financial, hospital, and research facilities.

We may think of three approaches:

1. Present day medical care.
2. Voluntary health insurance plans.
3. National health programs.

Of the above plans presented, the Voluntary Health Insurance Plans have certain benefits. To those who can afford the insurance it gives a feeling of security. It also allows for adequate financial return to doctors. The Voluntary Health

Insurance plans have certain drawbacks, namely:

1. Complete coverage is unattainable, and as a rule, those who are most in need of protection are not covered.

2. Membership is often restricted; some plans have restriction due to age, income, or occupational groups.

3. Services are sometimes limited in that care is not available until the patient is seriously ill.

4. Patients are sometimes charged extra. That is, patients are charged for the first one or two calls, and because of this are discouraged from seeking early care in an illness.

5. Costs are high because voluntary plans tend to attract those who expect or need medical care.

6. The consumer is not represented in management of these plans; because of this, the plans are not always administered to meet the needs of the people.

The adequate analysis of national health programs would take more than the available time allotted. We must, in a review of any program of health, realize that our system as now set up is not meeting the demands and needs of our population, and that any solution must be worked out in a cooperative fashion, with all interested groups reviewing and analyzing in a democratic and objective fashion.

Austin E. Finnessy,
Director of Education and Public Relations,
Iowa State Federation of Labor

DEPARTMENT OF PATHOLOGY

(Continued from page 170)

Council on Medical Education and Hospitals for Residency Training. This applies to a three year training program for as many as three resident physicians. It is planned that six months or more of this period will be spent in training in the Department of Pathology, State University of Iowa.

In addition to residents in pathology, two residents from the Department of Surgery are present at all times for periods of six months. Each resident from the Department of Internal Medicine spends three months in the Department.

At the present time, a bacteriologist and biochemist are on the laboratory staff to assist in the teaching program and to improve the caliber of procedures in clinical pathology.

K. R. Cross, M.D., Chief of Laboratory Service

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SPEAKERS BUREAU

SPEAKERS BUREAU SERVICES

The Speakers Bureau provides, upon request, the following:

1. Speakers to discuss suggested subjects at meetings of county or district medical societies and lay organizations.
2. Assistance in planning and conducting postgraduate courses and institutes.
3. Medical and health films for professional and lay groups.

The Bureau also sponsors a medical program broadcast weekly over Radio Stations WOI, Ames, and WSUI, Iowa City.

The purpose of the Speakers Bureau is to render service. Requests for help are welcomed. Contact Speakers Bureau, 505 Bankers Trust Building, Des Moines 9, Iowa. Telephone 3-0928.

POSTGRADUATE COURSE—BURLINGTON

Frank G. Ober, M.D., Local Chairman

The postgraduate course to be held at Burlington, Iowa, consists of three meetings starting April 28. They are listed as follows:

April 28—6:00 p.m.

Dinner—Burlington Golf Club

Speaker—Walter D. Hawk, M.D., Chicago

University of Chicago School of Medicine

Subject—Antibiotics

May 5—6:00 p.m.

Dinner—Burlington Golf Club

Speaker—Donald R. Nichols, M.D., Rochester

Mayo Clinic

Subject—Virus Diseases

May 12—6:00 p.m.

Dinner—Burlington Hotel

Speaker—E. A. Doisy, Jr., M.D., St. Louis

St. Louis University School of Medicine

Subject—Advances in Biochemistry

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Wednesday at 2:45 p.m.

WSUI—Thursday at 11:45 a.m.

Apr. 7-8 Cancer Series—General Discussion of Iowa Division of American Cancer Society. Mr. E. L. C. White, Spencer

Apr. 14-15 Cancer Series—Setup of Tumor Clinics. Edmund G. Zimmerer, M.D., Des Moines

Apr. 21-22 Cancer Series—Experiences with the Papanicolaou Tests at the University of Iowa. E. D. Plass, M.D., Iowa City

Apr. 28-29 Cancer Series—Research and Service Programs of the Cancer Society. Harold W. Morgan, M.D., Mason City

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS FRED MOORE, 634 40th St., Des Moines 12

President-elect—MRS. A. G. FELTER, Van Meter

Secretary—MRS CHARLES A. NICOLL, Panora

Treasurer—MRS. M. A. ROYAL, 1138 Thirty-seventh Street, Des Moines 11

PRESIDENTIAL MESSAGE

As we come to the close of a year's work, it is always important to review the progress that has been made and to set our objectives for the coming year. Our annual meeting in Des Moines April 19 and 20 offers the Auxiliary this opportunity. I can think of nothing more heartening than to have many of you from all parts of the state present in this meeting. A well informed statewide membership and participation is our first requisite. May we not only count upon your presence, but will you please come promptly so our meeting will be orderly and effective? There has been splendid cooperation throughout the year, and I feel deep gratitude for it.

Even as we approach our annual meeting, two most important projects are demanding our best efforts. The State Nursing Association has asked us to assist it in the survey of practical nursing and to continue the student recruitment campaign it conducted last year. The nursing problem, particularly that phase having to do with the shortage of nurses, is probably the most serious matter confronting American medicine today. It is with the approval and cooperation of the Medical Society that we are undertaking these two projects.

We have been working on student nurse recruitment all year. It was one of the objectives voted in our last annual meeting. But the present plan proposes to carry into each county an educational and recruitment program in line with a carefully prepared plan. The plan provides for concentration of effort in April, when the national campaign will be climaxed. Hence, Auxiliary members and doctors' wives everywhere are being asked to back it wholeheartedly. The survey of practical nursing will be a fact finding survey, needed in the long-range planning to meet the nursing problem.

There is no need of emphasizing the urgency of these two projects and the claim they have upon our time and cooperation. But you will want information on some of the plans already underway. In a recent digest from the committee of the American Medical Association working on the nursing problem, several most interesting things were reported:

1. A nursing structure study is being conducted by Dr. Esther L. Brown for the National Nursing Council on a grant from the Carnegie Foundation. Because of her qualifications, it is expected that her study will be comprehensive.

2. A permanent conference committee has been formed, made up of representatives of the nursing profession, the American Hospital Association and the American Medical Association. This conference committee is functioning and will attempt to work out a solution of common problems. The committee is directing its studies along the lines of (a) immediate relief, (b) future planning for training of bedside nurses and nursing educators, and (c) economic status.

3. This committee of the American Medical Association will be reporting to the House of Delegates at the Chicago meeting. It has the complete backing of the Association, which intends that the problem will be solved.

Our Auxiliary in Iowa is grateful for the opportunity of making a contribution toward the solution of this problem. Let's make it the finest thing we have ever done!

A LETTER FROM THE PRESIDENT-ELECT

Dear Doctor's Wife:

In less than a month now I hope to meet you at the annual meeting of the Woman's Auxiliary. Do plan to be there to meet old friends and make new ones. It seems that the program is intriguing with a wealth of entertainment, an opportunity for fine fellowship, and a source of information about the work of the Auxiliary.

This year I have been more or less of an on-looker helping where I could and learning all I could. Mrs. Moore has worked most diligently; the chairmen of committees and their members with the help of the county units have pushed the projects up a steep grade and have seen them begin to gain momentum on the straight-away. It is this momentum that we must not lose.

An increasing amount of responsibility is being placed upon the Auxiliary by the medical profession. Will you please pardon my reiterating the thought that Iowa needs desperately more organized groups, and where these are not feasible, many more members-at-large?

Before the new year begins, I hope to have all committees planned so that they may begin their work early. I want to place doctors' wives from all sections of the state on these committees. I have not met many of you, but I do know that we can

become acquainted if you will drop me a card telling me that you would like a part in furthering the projects of the Auxiliary and stating the field in which your interest lies. Some of you have told me where you can work best. I do appreciate so much your frankness and expression of willingness, and I shall appreciate very much hearing from many more of you.

Remembering that the medical profession considers the Auxiliary one of its best agencies in public relations, I cordially invite you to take your place in the work of the Auxiliary. Working together, the load will be light.

Mary R. Felter
President-Elect

The Upper Des Moines Auxiliary met with the Doctors for dinner in Emmetsburg February 19. Mrs. Roger M. Minkel of Ft. Dodge was a guest and spoke at the Auxiliary meeting following dinner.

We wish to remind contributors to the Woman's Auxiliary News that items should be in the hands of the Press Chairman by the twelfth of each month, and submissions should be typewritten if possible.

SOCIALIZED MEDICINE STILL AN ISSUE

"Dr. W. W. Bauer, editor of *Hygeia*, recently observed that 'There is a large scare campaign underway by the proponents of socialized medicine to convince people that their health is degenerating.' He then said this charge is not true, and that nations subjected to socialized medicine have lower health standards than those which have escaped it.

"The American people will be gullible indeed if they feel their health is on the downgrade. Diseases once fatal in a high proportion of cases, such as typhus and smallpox, have been almost completely conquered. The death rate and the incidence of tuberculosis have been sharply cut. Great progress has been made in handling cancer and heart disease. So it goes, down the long list. It is an interesting commentary on American health that sociologists are concerned with the fact that the percentage of elderly people in the population is rapidly increasing. We are living longer and healthier lives, as the insurance statistics show.

"High standards of health result from preventive medicine—from the elimination of the causes of disease. In this field, as in medicine, the American doctor has no superior. He has not been shackled by politics. He has not been regimented under some code of mediocrity. He does not depend on government for his living and his advancement. He is, in short, an integral part of the free enterprise system, and has progressed accordingly." From *The St. Louis County Medical Society Bulletin*.

"Some evening when your husband is out on calls, borrow his December issue of *Medical Economics*, gather together some copies of Marjorie Shearon's *American Medicine and the Political Scene* and a

copy of the Harness Committee Hearings and Report relating to Health Workshops. First read the article of Isador Falk in *Medical Economics*, then on to Marjorie Shearon. After that you will be anxious to read the committee report. Nothing dull about any of it. In fact, you will be amazed to find you can't go to bed until you have finished. Recommended for every doctor's wife."—*The Hoosier Doctor's Wife*, February, 1948.

Marjorie Shearon spent nearly ten years in the executive branch of the federal government. At the present time she is part-time consultant to a Senator who opposes socialized medicine, and she operates The Shearon Legislative Service which disseminates factual material about the effort to nationalize medicine. She has written *Blueprint for the Nationalization of Medicine and Socialized Medicine*, both pamphlets. "American Medicine and the Political Scene" is her weekly analytical news release.

The medical profession considers her work specific and authentic and supports her in it. The Iowa State Medical Society subscribed \$100 for her services during the past year.

The program committee will exhibit program material at the annual meeting, and copies of Marjorie Shearon's above mentioned pamphlets will be on display and for sale. It is hoped that each county Auxiliary will plan at least one program on medical legislation for the coming year. J. Weston Walch's "Check and Double Check On Sickness Insurance" will also be available with the Shearon pamphlets.

WORK FOR THE HANDICAPPED

Service: The Veterans Administration provides out-patient treatment, medical and dental, including necessary medicine, prosthetic appliances and other supplies authorized for treatment of service-connected conditions. Hospitalization is provided for all cases requiring special or prolonged treatment, or in cases where examinations are necessary to determine cause of illness or extent of service-connected disability.

Who is eligible: Treatment is provided for all men and women either discharged or retired from the army, navy, marine corps or coast guard after service in a war or peacetime period. Discharges of such persons must be honorable.

Cost: Applicants for hospital treatment for a disease or injury disability which was incurred or aggravated in the line of duty in active service are furnished hospitalization free of charge. Non-service connected disabilities are treated free of charge unless the applicant has disability or hospitalization insurance. In such cases, claim for payment of expenses incurred by Veterans Administration hospitalization is made. If the veteran is unable to defray cost of transportation to or from the hospital, government transportation is furnished.

Where to apply: Requests for hospitalization should be sent by veterans or their physicians in

letter or telegram form to the eligibility clerk, Office of the Registrar, Veterans Administration, Des Moines. The applicant will then be mailed a VA Form P-10, Application for Hospital Treatment or Domiciliary Care for completion by the veteran or his physician. Upon receipt of the completed form P-10, necessary steps for hospitalization or call for examination will be made.

Area: Veterans Administration hospitalization is nation-wide and is made in accordance with the type of treatment needed. If after the veteran is admitted to the Des Moines Hospital it is determined that further treatment could be made at another hospital, the veteran can request transfer at government expense.—*Iowa Health Agencies: A Handbook of Information.*

REVISED BY-LAWS

In February a full text of the proposed Revision of the By-Laws was mailed to all members of the Auxiliary.

It is proposed that these By-Laws be substituted for our present Constitution and By-Laws. These By-Laws have been unanimously approved by the Revisions Committee and by the Board of Directors.

County Auxiliaries should carefully consider these revisions so that the delegates may be given proper instruction for voting at the annual meeting. Members-at-large should also give them due consideration. Any suggestions or criticisms should be sent to the chairman of revisions.

We call attention to the increase of dues to one dollar per member and to the addition of the five councilors. Our expanded Auxiliary program necessitates the increase of fifty cents in dues. By having councilors for the four corners of the state and one councilor for the central part, we will have contact with all parts of the state, thus enabling us to better promote the work of the Auxiliary. All members should attend this annual meeting if possible. All doctors' wives are welcome to attend these meetings and those who are not members are urged to join the Auxiliary.

These proposed By-Laws will again be taken up at the preconvention board meeting and will be submitted at the annual meeting on Tuesday morning, April 20.

Mrs. E. T. Warren
Mrs. H. I. McPherrin
Mrs. W. R. Hornaday

1947 CONFERENCE ADDRESSES

EDWARD L. BORTZ, M.D.

President, American Medical Association

I bring greetings to you from the 134,000 doctors of our great land representing the American Medical Association—the largest and most powerful medical association and one of the greatest instruments dedicated to the sole endeavor of bringing life and life more abundantly to our fellowmen.

You ladies are meeting in this important assembly to discuss policies, ways and means and actions to

be taken in the future. There are certain major objectives that you should keep in mind. In the first place there are 134,000 doctors, members of the American Medical Association, but only 36,000 Auxiliary members. The Woman's Auxiliary should number at least 134,000. We are all in the same family. As wives of doctors, you should have a sense of importance, dignity and respect for yourselves to be participating in one of the most important activities that society has developed—the art and science of the practice of medicine. Never has the medical profession been so schooled; never have doctors been able to do so much for the patients that come to them. The doctor today is the most effective instrument for good in the social scheme of things, and if that is so you have a very important part to play in the doctor's life.

The members of the Woman's Auxiliary are the greatest single asset the American Medical Association has, and at the same time the most neglected. I have called this to the attention of the Board of Trustees and will continue to be the thorn in its side. The more we share with you our problems, the more effectively can you carry on and help us to solve them. The finest public relations counsel the doctor, lawyer or business man has is his helpmate. You have a great role to play that has not even begun to be approached. We are living in one of the most awe inspiring eras in the history of the human race and it is for us to decide in what direction society and the world is going to go. We have two choices. The world is being aligned today in two opposite groups. Are you dedicated to the philosophy of Government that emancipates the state and grinds its men, women and children under the heartless heel of the state yoke which squeezes the life blood out of them to make an all powerful state. That is dictatorship; that is not Communism. Communism is sharing. We do not have that anywhere in the world. Here we are in an enlightened community and Government that has for its base rock and its arch of existence the rights of man and the sanctity of the home. As the ideals of our great country grow, there develops the furtherance of the opportunities for every man, woman and child for a more abundant existence; in this nation I think we are dedicated to the program and policy that Government is serving the community and the people, rather than the other way around. Let's get away from the propaganda, the bias, the emotionalism; what basic facts do we have? That is exactly where Medicine stands. Medicine can furnish more abundant life and develop all of the things that make life worthwhile.

Medicine is facing certain problems today and you see them as well as we do. You are going into communities and women's clubs that are sold on the idea of making an all powerful Government that will give every man, woman and child everything they will want in this country as far as medical service is concerned. I would advise all of you to get all of the information you can about the ideals

(Continued on page 180)

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- ADVANCES IN MILITARY MEDICINE**—Made by American investigators working under the sponsorship of the Committee on Medical Research. Edited by E. C. Andrus, D. W. Bronk, G. A. Carden, Jr., C. S. Keefer, J. S. Lockwood, J. T. Wearn, M. D. Winternitz. Associate Editor—Tuckerman Day. Foreword by Alfred N. Richards. Volumes I and II. An Atlantic Monthly Press Book. Little, Brown and Company, Boston, 1948. Price, \$12.50.
- DIABETES MELLITUS IN GENERAL PRACTICE**—By Arthur R. Colwell, M.D., Associate Professor of Medicine and Director of Medical Specialty Training, Northwestern University Medical School; Attending Physician, Evanston Hospital, Evanston, Ill.; Consulting Physician, Wesley Memorial Hospital, Chicago. The Year Book Publishers, Inc., Chicago, 1947. Price, \$5.25.
- ENDOCRINE THERAPY IN GENERAL PRACTICE**—By Elmer L. Sevringhaus, M.D., F.A.C.P., Formerly Professor of Medicine, University of Wisconsin; Director, Endocrine and Nutritional Clinics, Gouverneur Hospital, New York City. The Year Book Publishers, Inc., Chicago, 1948. Price, \$4.
- GYNECOLOGICAL AND OBSTETRICAL UROLOGY**—By Huston S. Everett, M.D., Associate Professor of Gynecology, the Johns Hopkins University, and Associate in Gynecology, the University of Maryland Gynecologist and Gynecologist in Charge of the Cystoscopic Clinic, the Johns Hopkins Hospital. Visiting Gynecologist, the Church Home and Hospital, the Hospital for the Women of Maryland, and the Union Memorial Hospital. Second edition. The Williams and Wilkins Company, Baltimore, 1947. Price, \$6.
- A MANUAL OF CLINICAL THERAPEUTICS: A GUIDE FOR STUDENTS AND PRACTITIONERS**—By Windsor C. Cutting, M.D., Professor of Therapeutics, Stanford University School of Medicine, San Francisco, Calif. Second edition, W. B. Saunders Company, Philadelphia, 1948. Price, \$5.
- A MANUAL OF PHARMACOLOGY AND ITS APPLICATIONS TO THERAPEUTICS AND TOXICOLOGY**—By Torald Sollmann, M.D., Professor Emeritus of Pharmacology and Materia Medica, School of Medicine, Western Reserve University, Cleveland. Seventh edition. W. B. Saunders Company, Philadelphia, 1948. Price, \$11.50.
- MINOR SURGERY**—By Frederick Christopher, B.S., M.D., F.A.C.S., Associate Professor of Surgery, Northwestern University Medical School; Chief Surgeon, Evanston Company, Philadelphia, 1948. Price, \$12.
- MODERN COSMETICOLOGY**—By Ralph G. Harry, F.R.I.C., Certificate of the Royal Institute of Chemistry and Microscopy of Foods, Drugs and Waters, Pharmacognosy, Pharmacology and Therapeutics. Head of the Cosmetic Department, Beecham Research Laboratories, Ltd.; formerly Manager of Toilet Preparations Research Laboratory, Messrs. Lever Brothers & Unilever, Ltd. With a foreword by P. B. MUMFORD, M.D., F.R.C.P., Hon. Dermatologist, the Manchester Royal Infirmary; Hon. Consulting Physician, the Christie Cancer Hospital and Holt Radium Institute; Hon. Physician, Manchester and Salford Skin Hospital. Third revised edition. Chemical Publishing Co., Inc., Brooklyn, 1947. Price, \$12.
- A PRIMER OF CARDIOLOGY**—By George E. Burch, M.D., F.A.C.P., Associate Professor of Medicine, Tulane University School of Medicine; Senior Visiting Physician, Charity Hospital; Consultant in Cardiovascular Diseases, Ochsner Clinic; Visiting Physician, Touro Infirmary, New Orleans; and PAUL REASER, M.D., Instructor in Medicine, Tulane University School of Medicine; Assistant Visiting
- A TEXTBOOK OF CLINICAL NEUROLOGY** with an Introduction to the History of Neurology—By Israel S. Wechsler, M.D., Clinical Professor of Neurology, Columbia University, New York; Neurologist, the Mount Sinai Hospital; Consulting Neurologist, Montefiore Hospital and Rockland State Hospital, New York. Sixth edition. W. B. Saunders Co., Philadelphia, 1947. Price, \$8.50.
- A TEXTBOOK ON PATHOLOGY OF LABOR, THE PUERPERIUM, AND THE NEWBORN**—By Charles O. McCormick, A.B., M.D., F.A.C.S., Clinical Professor of Obstetrics, Indiana University School of Medicine; Consulting Obstetrician to William H. Coleman Hospital for Women, Indianapolis City Hospital, and Sunny Side Sanitarium. Second edition. The C. V. Mosby Company, St. Louis, 1947. Price, \$8.50.
- 400 YEARS OF A DOCTOR'S LIFE**—Collected and arranged by George Rosen, M.D., and Beate Caspari-Rosen, M.D. Henry Schuman, New York, 1947. Price, \$5.
- 1947 YEAR BOOK OF GENERAL SURGERY**—Edited by Everts A. Graham, A.B., M.D., Professor of Surgery, Washington University School of Medicine; Surgeon-in-Chief of the Barnes Hospital and of the Children's Hospital, St. Louis. The Year Book Publishers, Inc., Chicago, 1947. Price, \$3.75.

BOOK REVIEWS

1947 YEAR BOOK OF PEDIATRICS

Edited by Isaac A. Abt, D.Sc., M.D., Emeritus Professor of Pediatrics, Northwestern University Medical School; Consulting Physician, Children's Memorial Hospital, St. Luke's Hospital and Michael Reese Hospital, Chicago; with the collaboration of ARTHUR A. ABT, M.D., Associate Professor of Pediatrics, Northwestern University Medical School; Attending Pediatrician, Michael Reese Hospital; Attending Pediatrician, LaRabida Jackson Park Sanatorium; Consultant in Pediatrics, Chicago Board of Health and Consultant in Pediatrics, Great Lakes Naval Hospital, Great Lakes, Illinois. The Year Book Publishers, Inc., Chicago, 1947. Price \$3.75.

Each year anew those interested in pediatrics are looking forward to the Year Book with anticipation. Since it is close to impossible to find or read all papers pertaining to children's diseases, the Year Book provides a welcome means to become familiar with the work done throughout the past year in the various fields related to pediatrics. The present

edition is dedicated to Dr. Isaac A. Abt, on the occasion of his eightieth birthday. Dr. Abt has been the efficient editor of the Year Book for the past forty-six years.

A chapter is dedicated to each of the various subspecialties, including "Nutrition" and "Therapeutics." The section on the "Gastro-intestinal Tract" contains much valuable information. One would like to find more about infant feeding.

W. M. B.

DIABETES MELLITUS IN GENERAL PRACTICE

By Arthur R. Colwell, M.D., Associate Professor of Medicine and Director of Medical Specialty Training, Northwestern University Medical School; Attending Physician, Evanston Hospital, Evanston, Ill.; Consulting Physician, Wesley Memorial Hospital, Chicago. The Year Book Publishers, Inc., Chicago, 1947. Price, \$5.25.

In this clearly written text on the complex subject of diabetes, the author leads the practitioner through the known facts without wasted words. Reliable information regarding diagnosis is presented in a

manner that will enable one to differentiate true diabetes from the harmless melliturias. Helpful data are contained in the chapter on dietary treatment—that least understood aspect of diabetic therapy.

Dr. Colwell is noted for his logical approach to insulin and in the use of the proper type in each individual case; this portion of his book is therefore most valuable. To those who treat diabetes, this text offers substantial assistance.

A. G. L.

THE 1947 YEAR BOOK OF GENERAL THERAPEUTICS

Edited by Oscar W. Bethea, Ph.M., M.D., F.A.C.P., Professor of Clinical Medicine, Tulane University School of Medicine (retired); Senior in Medicine, Southern Baptist Hospital; Consulting Physician, Charity Hospital; Member of the Revision Committee of the U. S. Pharmacopeia 1930-1940. The Year Book Publishers, Inc., Chicago, 1946. Price, \$3.75.

The 1947 Year Book of General Therapeutics presents summaries of articles which appeared during the past year. To one who is unable to keep up with all the journals, but who is determined to keep up with the present day status of therapy, this book is very helpful.

An excellent selection of articles gleaned from foreign and domestic journals has been made by the editor for review in this book.

The articles chosen deal with the drugs, technics, and results obtained in the experience of the clinicians of today. The topics considered for review cover the entire realm of today's therapeutics, and are arranged in a well-indexed, logical order. The summaries themselves are brief and to the point.

An up-to-date evaluation of practically all forms of therapy has been presented. Old, well established therapy is discussed with new statistics of larger numbers of cases. Newly accepted drugs with their varying indications and disadvantages are adequately covered. Preliminary reports on new drugs are reviewed and attention called to the possibilities uncovered by new therapy.

All in all, this reference volume is complete in its consideration of the modern treatment for the diseases of today.

C. P. A.

UNIPOLAR LEAD ELECTROCARDIOGRAPHY

Including Standard Leads, Unipolar Extremity Leads and Multiple Unipolar Precordial Leads—By Emanuel Goldberger, B.S., M.D., Adjunct Physician, Montefiore Hospital, New York; Cardiographer and Associate Physician, Lincoln Hospital, New York; Diplomate of the American Board of Internal Medicine; Clinical Lecturer in Medicine, Columbia University, Faculty of Medicine. Lea & Febiger, Philadelphia, 1947. Price, \$4.

This brief, one hundred and eighty-two page book on electrocardiography is divided into two sections. Section I gives a brief description of the principles of electrocardiography and the normal electrocardiogram; Section II describes especially abnormal electrocardiographic patterns such as are produced by cardiac hypertrophy, bundle branch block, myocardial injury and the effect of digitalis. Each abnormality is described not only in terms of the three standard leads but in terms of the three "augmented" unipolar extremity leads and the six unipolar precordial leads also.

Unipolar extremity leads and unipolar precordial leads are advantageous in many clinical conditions such as the diagnosis of small myocardial infarcts, the interpretation of axis deviation, the differentiation of pulmonary embolism from posterior infarctions, the diagnosis of ventricular hypertrophy and the interpretation of tracings when standard leads appear normal or have minimal changes.

This monograph contains eighty-eight illustrations which greatly aid in the understanding and visualization of the printed matter. It is felt Dr. Goldberger has made a definite contribution to the field of electrocardiography, and this book is recommended to those interested in this specialty.

R. E. K.

SEXUAL BEHAVIOR IN THE HUMAN MALE

By Alfred C. Kinsey, Professor of Zoology, Indiana University; WARDELL B. POMEROY, Research Assistant, Indiana University; CLYDE E. MARTIN, Research Associate, Indiana University. W. B. Saunders Company, Philadelphia, 1948. Price, \$6.50.

The data in this book, through its thoroughness and quantity, clearly show the volume to be the result of a long and detailed study (a nine-year project of Dr. Kinsey and his staff at Indiana University, with the support of the National Research Council's Committee for Research on Problems of Sex).

It presents such a wealth of material, broken down to cover every conceivable phase of sex relationships of the male, that the reader must be warned against scanning but one table or chapter, thus procuring a distorted interpretation rather than an over-all picture of the facts. It is regrettable that some newspapers have sensationalized minute details to the general public, for this is primarily valuable medical data to be used by those who are concerned with directing human behavior.

The 173 figures and 151 tables leave no stone unturned in the breaking down of statistics, sometimes to the point of being repetitious. These are supplemented by three clinical tables which will prove of particular value to counselors who need ready references in comparing the sexual histories of the individuals who come for help with the averages for other persons of the same age group, education level, religious or rural-urban background.

V. M. T.

SOCIETY PROCEEDINGS

MEETINGS

Black Hawk County

The regular meeting of the Black Hawk County Medical Society was held at 6:30 p.m. on March 16 at Neely's Cupboard, Waterloo. Tom A. Hendricks, secretary to the Council on Medical Service of the American Medical Association, spoke on "Community Health Leadership and Medical Service Plans."

Calhoun County

Dr. Paul W. Van Metre of Rockwell City was elected president of the Calhoun County Medical Society at the annual meeting held in Rockwell City February 20. Others officers elected were Dr. Charles R. Wilson, Manson, vice president; Dr. Clare E. Knouf, Lake City, secretary-treasurer; Dr. D. C. Carver, Rockwell City, delegate; and Dr. F. W. Hobart, Lake City, alternate.

Fayette County

The Fayette County Medical Society held its monthly meeting at Pine Lodge, Oelwein, on February 10 at 7:30 p. m. Twenty-five members and guests were present. Following dinner Dr. Otto S. Blum and Dr. Herbert W. Rathe of the Rohlf Clinic at Waverly presented papers on "Differential Diagnosis of Nasal Obstruction" and "Hiatal Hernia—Case Reports and Discussion," respectively.

Johnson County

The regular meeting of the Johnson County Medical Society was held at the Jefferson Hotel, Iowa City, March 3 at 6 p. m. Following dinner and the business meeting, Dr. H. B. Elkins, Assistant Professor of Radiology at the State University, spoke on "Medical Aspects of Atomic Explosion." The discussion was opened by Dr. M. E. Barnes, Professor and Head of the Department of Hygiene and Preventive Medicine, and Dr. T. L. Carr, Associate in the Department of Theory and Practice.

Polk County

The Polk County Medical Society met March 17 at the Des Moines Club for dinner and a scientific program. Dr. Frederick H. Falls, Professor of Obstetrics and Gynecology at the University of Illinois College of Medicine, spoke on "The Management of Eclamptogenic Toxemia."

Scott County

Dr. James Flood of Sayre, Pa., addressed the Scott County Medical Society at its meeting March 2 at the Lend-a-Hand Club, Davenport. He discussed new approaches to treating dermatitis of the hands through diet control.

Upper Des Moines Medical Society

Dr. Phil Scott of Spirit Lake was elected president of the Upper Des Moines Medical Society at that group's annual winter meeting held on February 19 in Emmetsburg. Dr. F. X. Cretzmeyer of Emmetsburg was elected vice president and Dr. Ruth Wolcott of Spirit Lake secretary.

Woodbury County

The Woodbury County Medical Society met February 26 in the ballroom of the Martin Hotel. Following dinner Dr. J. D. Nesselrod, Professor of Proctology of Northwestern University, spoke on "Ano-Rectal Diseases."

On March 18 the group again met at the Martin Hotel, this time to hear Dr. N. A. Womack, Professor of Surgery and Head of the Department at the State University of Iowa College of Medicine, talk on "Indications for Surgery in Cholecystitis."

PERSONALS

Dr. Fred H. Beaumont of Council Bluffs, director of the Pottawattamie County Tumor Clinic, spoke at the Decatur County Cancer Society meeting held in Leon February 23.

Dr. Stuart C. Cullen, Associate Professor of Surgery at the State University of Iowa College of Medicine, participated in a round table discussion during the sectional meeting of the American College of Surgeons in Minneapolis March 15 and 16. The discussion was on "Operations on Elderly Patients with Special Reference to the Reduction of Surgical Risk."

Dr. John E. Eichenlaube, formerly of Washington, D. C., has opened offices for the practice of medicine in Ackley. He was recently discharged from service.

Dr. H. B. Elkins, of the State University of Iowa Department of Radiology, and E. L. C. White, campaign chairman of the Iowa Division of the American Cancer Society, were guest speakers at a district meeting of the Cancer Society held in Centerville February 24.

Dr. Marcus B. Emmons of Clinton, a member of the board of directors of the Iowa Society for Mental Hygiene, spoke to a Mount Vernon civic group on phases of mental hygiene March 9.

Dr. J. D. Hexom opened offices for the general practice of medicine in Decorah March 1. Dr. Hexom is resuming practice after a year's retirement.

Dr. Parker K. Hughes of Des Moines spoke on cancer control at a meeting of the Greene County Chapter of the American Cancer Society held in Jefferson March 1.

Dr. Milo E. Jeffries has become associated with the Marshalltown Medical and Surgical Clinic, Marshalltown, where he will specialize in obstetrics and gynecology. Dr. Jeffries was graduated from the Northwestern School of Medicine and practiced in Chicago until joining the army. He has been taking special work at the Wesleyan Memorial Hospital, Chicago.

Dr. Harry J. Jones of Cedar Rapids led a panel discussion on developments in medicine at a meeting of the Rotary Club of that city recently. Others participating were Drs. J. Stuart McQuiston, Barclay J. Moon, Carl Noè, and John Rieniets.

Dr. Carl F. Jordan, Director of the Preventable Disease Division of the State Department of Health, has resigned, effective May 1, to accept the position of Director of the Tarrant County Public Health Department, Fort Worth, Tex. He will be in charge of a health center and a public health program in the county of 300,000 population.

Dr. Robert H. Lott of Carroll recently retired from practice and left for an extended trip through the United States and Canada. Dr. Lott had practiced in Carroll twenty-five years.

Dr. Joseph E. O'Connell addressed the Mercy Hospital Nurses' Alumnae Association on "New Drugs" at the group's March meeting held in the Nurses' Home, Clinton.

Dr. Everett D. Plass, Head of the Department of Obstetrics and Gynecology at the State University of Iowa, recently delivered a series of lectures to the Y.W.C.A. "Major in Marriage" group in Iowa City.

Dr. Erwin C. Sage of Burlington, director of the Des Moines County Health Unit, gave the opening address February 23 in a series of radio broadcasts on heart disease. His subject was "Increasing Importance of the Heart." **Dr. John McKitterick** spoke on "Heart Disease in Children" March 1; **Dr. Forest Coulson** talked on "Infections and Toxic Heart Disease in Adults" on March 8; **Dr. George B. Crow** on "Degenerative Heart Disease" March 15; **Dr. Robert Crawford** on "Living with Your Heart" on March 22.

Dr. Allen C. Starry of Sioux City spoke at a meeting on cancer control in Estherville March 11.

Dr. Wendel W. Taylor of Sheffield delivered an address on cancer control at a meeting of the Eldora unit of the American Cancer Society held March 10. A movie entitled "Time Is Life" was shown preceding the talk.

Dr. Seward White of Olin has engaged the services of Dr. Lawrence B. Williams for the coming three months, according to recent announcement. Dr. Williams received his medical degree from the State University of Iowa College of Medicine March 13.

Dr. Homer Wichern, recently returned from military service, is assisting Dr. John Parsons of Des Moines. Dr. Wichern was Chief of Surgery at Nagaya, Japan, during most of his time in service.

Dr. Keith E. Wilcox, president of the Muscatine County Medical Society, spoke on "Cancer" to the Muscatine Newcomers Club February 17.

Dr. Wilton J. Willett of Manchester addressed a young people's group in that city on "A Doctor's View of the Liquor Question" February 15.

Dr. Nathan A. Womack, Head of the Department of Surgery of the State University of Iowa's College of Medicine, addressed the Iowa City Rotary Club March 4. He described the development of graduate education in medicine.

Dr. Edmund G. Zimmerer of Des Moines and E. L. C. White of Spencer spoke at the meeting of the Cerro Gordo Chapter of the American Cancer Society March 2.

MARRIAGE ANNOUNCEMENTS

Johnson-Harris

Miss Irene Johnson, daughter of Mrs. Inga Johnson of Northfield, Minn., and Dr. Grove Harris of Marshalltown were united in marriage March 3 at the home of the Rev. C. H. Van Metre. Following a three-week trip, Dr. Harris will continue his practice and Mrs. Harris, who has been his office assistant, will continue in that capacity.

Johnston-Watts

The secret marriage of Miss Vivian Johnston, niece of Mrs. E. J. Redfield, of Des Moines, to Dr. Clyde F. Watts of Marengo was recently announced. The marriage took place in Chicago Sept. 3, 1947. The couple will be at home in Marengo.

DEATH NOTICES

Fellows, Liberty Eaton, aged 55, of Newton, died February 17 at his home following a heart attack. Dr. Fellows was a graduate of the University of Michigan Medical School, Ann Arbor, with the class of 1918, having practiced in Ellsworth and Webster City before coming to Newton in 1928. He was a member of the Jasper County and Iowa State Medical Societies.

Gillfillan, Bruce Lock, aged 65, of Keokuk, died March 6 of a heart attack at his home. He was

graduated from the Keokuk Medical College, College of Physicians and Surgeons, in 1908, and practiced in Moulton, Ia., and Warsaw, Ill., before coming to Keokuk in 1911. He was a member of the Lee County and Iowa State Medical Societies.

Hage, Martin Milton, aged 62, of Lake Mills, died March 9 of a cerebral hemorrhage at Mercy Hospital, Mason City. He was a graduate of the Hahnemann Medical College and Hospital, Chicago, with the class of 1912. Dr. Hage began his practice in Thompson in 1912, coming to Lake Mills in 1924. He was a member of the Hancock-Winnebagos and Iowa State Medical Societies.

McElderry, Donald, aged 74, died March 15 at the Veterans Hospital, Des Moines, following a long illness. Dr. McElderry was graduated from the State University of Iowa College of Medicine, Iowa City, in 1908, and had practiced in Ottumwa, Wilton Junction, and Princeton. He was a member of the Scott County and Iowa State Medical Societies.

Padgham, John Thomas, aged 71, of Grinnell, died February 18 at his home following an extended illness. A graduate of the State University of Iowa College of Medicine with the class of 1909, Dr. Padgham had practiced in Grinnell thirty-three years. He was a member of the Poweshiek County and Iowa State Medical Societies.

Vollmer, Karl, aged 78, died at his home in Davenport February 19 following a two-month illness. Dr. Vollmer was graduated from the State University of Iowa College of Medicine, Iowa City, in 1892, following which he studied in Europe, then returned to Davenport to begin practice in 1893. He was a life member of the Scott County and Iowa State Medical Societies.

Wilder, Agnes Ross, aged 74, of Atlantic, died February 17 at her home following a short illness. Dr. Wilder was a graduate of the Hahnemann Medical College and Hospital, Chicago, with the class of 1897 and had practiced in Atlantic since that time. She was a member of the Cass County and Iowa State Medical Societies.

1947 CONFERENCE ADDRESS

(Continued from page 175)

and objectives and the inner structure of the different departments of the American Medical Association. We have three major objectives:

(1) **Medical Education:** We doctors can work on this and take care of it in our schools and medical societies.

(2) **Education of the Public:** By this I mean health education, and we have the Bureau of Health Education that is doing a superb job under the direction of Dr. W. W. Bauer. Talk more health and less about illness. If we have people taking care of themselves they will not need so much doctoring,

and doctors will be able to concentrate their attention on the major medical problems confronting them.

(3) **Medical Research:** I wish I had the time to tell you all about the vast era of medical research that we are entering with the atomic age. I think the members of the Woman's Auxiliary should inform themselves regarding this phase of medicine so that you can go into your communities and your women's clubs and instruct them. The Bureau of Health Education and the Council on Medical Service both have a great deal of information and data which they can give you. I would advise you not to go before any group until you are absolutely sure of your ground.

There are many things that I could tell you if time would permit, but my best advice is "the better job you do, the better will be your community." —*Bulletin of the Woman's Auxiliary to the A.M.A.*, Dec. 1947.

IOWA STATE MEDICAL GOLF ASSOCIATION

All golfers, big or little, good or bad, hear ye! The 1948 gathering of the pill packers will be on Sunday afternoon, April 18, at the Hyperion Club golf course. Be ye reminded to report by 1 p. m. and sign up for blind bogey, stating your handicap, and reservations for dinner, at which time prizes will be carefully awarded on the basis of score made and regulations and rules posted.

Please contact your golfing friends or foes in your community and urge them to participate. It will do us all good to be in the open and get a few good shots (of golf, that is), for it will encourage the meek, and the bad shots will humble the arrogant.

The 1947 donators of prizes were: Standard Chemical Company, Des Moines; Ames Company, Inc., Elkhart, Ind.; The Zemmer Company, Pittsburg, Pa.; Hoffman La Roche, Inc., Roche Park, N. J.; Burroughs Wellcome Co., New York; White Laboratories, Inc., Newark, N. J.; Aloe & Co. Surgical and Medical Supplies and Equipment, St. Louis; Mead Johnson & Co., Evansville, Ind.; Schering Corporation, Bloomfield, N. J.; Pitman-Moore, Indianapolis, Ind.; Riggs Optical Company, Des Moines; American Optical Company, Des Moines; Von Mueller Surgical Supply Co., Chicago; Professional Management, Waterloo; Colgate Palmolive Peet Co., Jersey City, N. J. Squibb and Sons' local representative helped in our enjoyment.

Officers elected for 1948 were H. J. McCoy, president, and J. A. Matheson, secretary-treasurer.

We shall look forward to seeing you.

H. J. McCoy
J. A. Matheson

Reunion of Class of '31

Monday, April 19

Luncheon — 12 Noon — Parlor A
All members of the class of '31 are
invited to attend.

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No. 5

PRESIDENT'S ADDRESS

PRESENT-DAY PROBLEMS IN THE FIELD OF MEDICINE

Harold A. Spilman, M.D., Ottumwa

This session of the House of Delegates marks the opening of the ninety-seventh annual meeting of the Iowa State Medical Society; it is also the beginning of the end of my term as president of the society. The duties of office have not been too burdensome due to the earnest, sincere and efficient manner in which officers, committee chairmen and members, and personnel of the central office have performed their respective tasks.

A quotation from George Washington appears on the editorial page of a magazine of national circulation which is particularly applicable to the medical profession and should be of especial interest to the various deliberative bodies of our state and national medical organizations. "In proportion as the structure of a government gives force to public opinion, it is essential that public opinion be enlightened." In these days of chaos in international, national, state and local affairs, in these days of political, economic, social and industrial strife, the development of this informed and enlightened public opinion assumes paramount importance. We of the medical profession should be especially concerned that the public be fully informed of the importance of our national system of medical practice in the development and maintenance of the health and physical welfare of the citizens of these United States. We must be even more concerned to have all members of our profession enlightened with regard to, first, the changing conditions of our times in an increasingly industrial age, and second, the effect of these changes upon the practice of medicine.

The art and science of the practice of medicine is not static but is in a constant state of flux, and we must be ever alert to aid and guide the trend of medical education and practice to the end that bet-

ter doctors and improved methods of practice may better serve the sick and injured in our respective communities. No structure can be stronger than its foundation. The foundation of our profession is the doctor upon whom the families in each community depend and who is regarded by them as not only their medical counsellor but their friend. Are our medical schools training good doctors and are they teaching the medical students that each patient is an individual with many and diverse problems which may very materially affect the proper management of the case? Are we in Iowa getting an adequate supply of young men to enter the general practice of medicine to replace those men who are being constantly removed from the active list by death or infirmities of age?

Socialistic and communistic thoughts and ideas have invaded our country and have been insidiously developed under the guise of public health by expounding half-truths and direct misrepresentations. Medical service is a favorite starting point. Well-meaning, but often misguided philanthropists, having made their fortunes in hard-headed and astute management of their commercial enterprises, often seek ways to spend that accumulation for the betterment of humanity. They find ready and willing helpers in the visionary, the crack-pot, and the crook, who will go to any lengths and resort to any trickery or subterfuge to gain their objective. Today the physicians of the United States find themselves constantly threatened by legislation, the ultimate objective of which is the governmental control of medicine and medical facilities. A not inconsiderable start has already been made through the medical care of veterans because we all feel and believe that they deserve all we can do for them in cases of service connected disabilities. The non-service connected case is another story, and all too many of them present themselves at the various facilities and receive care without cost even when amply able to pay.

No longer can the physician live in splendid isolation and concern himself only with

medical science; he must be alert and militant in his efforts to save his profession from the evils of political medicine. Political medicine did not work in Europe; it is not working in England, and it will not work here. However, it is much simpler to prevent legislation which has that end in view by presenting a solid front and demonstrating that the doctors will not man such a project than it is to be forced to demonstrate that fact by organizing opposition after the act is passed as they are now compelled to do in England. It should also prove much less expensive. The legislative committee of our State Society is active and efficient; it has done, is doing, and will continue to do a good job. Do you give it the support and help it requests when asked? The National Physicians Committee and the Association of American Physicians and Surgeons are active and alert on a national scale. Are you and I doing all that we can to further their efforts to save American medicine from political domination?

Through the activities and studies of its various committees the Iowa State Medical Society is striving to keep its membership informed of trends of thought and action affecting medical practice. A young committee in point of years is of increasing importance to the profession, and under the able leadership of its chairman, the Committee on Medical Service and Public Relations is becoming more and more useful. Postgraduate medical education is always an important subject, and the Speakers Bureau Committee constantly strives to increase the opportunities in that direction. The Cancer Committee deserves special credit for its revision of the cancer manual. To the various chairmen and sub-chairmen goes the credit for the excellent scientific program which is to be presented during this annual meeting.

PRESIDENT-ELECT'S ADDRESS

MEDICAL ECONOMICS AND PUBLIC RELATIONS

James E. Reeder, M.D., Sioux City

Again, I wish to thank the Iowa State Medical Society for electing me to the highest office that can be conferred on any of its membership. I trust that I realize the responsibility of the position and I will do my best to fulfill it.

Twenty years ago we were strictly a scientific body, while within the past fifteen years or so we have been expanding our activities outside the scientific field of medicine so that, at the present

writing, at least 50 per cent of the time of the officers and committees is consumed in "economics and public relations." A few months ago this was brought very forcibly to the attention of your Board of Trustees and the other officers of our Society when we came to the conclusion it was expedient to employ a full time public relations man who has completed his indoctrination and is ready for active duty. No doubt some of you are wondering why this was necessary. The primary specific reason is that the Iowa Medical Service is not growing and developing as it should, considering that we are now well into the third year and have only slightly over 50 per cent of the members of our State Society signed up as participating in the program. Why? There may be several reasons: first, you were not informed by your delegate; or, second, you failed to attend your county medical society when the Iowa Medical Service was discussed; third, you have failed to read your JOURNAL. How often, when your JOURNAL comes the first of the month and you clear off your desk, have you found last month's copy not removed from its envelope?

There is no question but that the demand for medical services is greater today than at any time in history, and for several reasons: (1) the average family income is higher at the present time than ever before; (2) hospital insurance helps lighten the cost in a catastrophic illness; (3) non-profit prepayment medical plans, plus commercial companies, place the patient in a position to demand adequate medical care. Those who propose socialized medicine are now claiming that our prepayment plans will fail in their purpose because the doctors are not 100 per cent behind their own program. It seems to me that this alone is sufficient evidence that we should support our own plan. If we do not, this is excellent propaganda for the proponents of socialized medicine. With our tax load growing ever larger each year for the past twenty years and with the estimated cost of complete socialization of medicine to be from \$8,000,000,000 to \$12,000,000,000 annually, you think of what has happened to other civilizations in the past. They have collapsed under the weight of excessive taxation and, as the Russian historian Kluychevsky wrote, "The state swelled and the people shrank." With the people looking to us to show them the way, is it not our responsibility to do so? We have been too negative in the past, and only in recent years have we awakened to the seriousness of the problem.

Following the election of November, 1946, when the returns showed a Republican majority, one of my colleagues made the statement, "Now

that we have a majority of Republicans in Congress we need not worry about socialized medicine any more." This statement alone is evidence that this party has not given the problem much serious thought because, regardless of any political adherence, any representative will and must listen to pressure groups.

Our political system was founded on the belief in personal liberty, a conviction that the individual must not be enslaved by the majority any more than by a dictator. But this belief is under suspicion. The suspicion is that for a man to have the desire to work for himself and those he is responsible for is not only unnecessary but is undesirable, a thing of evil, and finally, that if we cannot have perfect equality and security without sacrificing liberty, then our liberty has been very much over maligned. These statements come in many camouflaged forms; they are not sired by known "foreign agents." They are to be found in words of men of the higher intellectual group, high government officials, and, I am sorry to say, in our own profession.

On the other hand, it is not surprising that our "intellectuals" are the most prolific sowers of suspicion, for they are by nature doubters of most things, regardless of how they may be presented. Although they may have profited greatly from the civilization they condemn, under no other system have these "intellectuals" profited more or had greater rewards or greater freedom.

It is all right to have wages for labor and income for the farmer, but one who follows a profession is rendering services for profit. Therefore, we are a "privileged" class and must be controlled. If we are to believe the reformists because it is necessary that we practice medicine for a fee, or "profit," we have somehow become an enemy of the people, are one evil force to mankind and all wear horns and tails.

Why the leaders of our country denounce those who produce for a profit and at the same time want to uplift people of other countries is indeed difficult to understand, unless it is fashionable among a great many government employees. There is something wrong with our system and it should be junked because it has not produced the millenium.

In conclusion, we most certainly need to guard against dangers from without because this country is too rich a prize not to do so. On the other hand, we need to guard against all propaganda within lest we create our own disaster. May we continue to be eternally vigilant.

THE EFFECT OF THE XANTHINE DERIVATIVES ON THE PROTHROMBIN AND PLASMA CLOTTING TIMES IN DOGS AND IN HUMAN SUBJECTS*

Helen Holland M.S., and Erwin G. Gross, M.D.
Iowa City

During the period 1920-28 a number of investigators¹⁻⁵ suggested that the methyl xanthines shortened the coagulation time of blood. More recently Sirasaka,⁶ working with rabbits, noted that the administration of caffeine shortened the bleeding time,—an effect which did not always correspond to that on the coagulability of the blood. Field and coworkers^{7,8} reported that the methyl xanthine derivatives not only shortened the prothrombin times of rabbits and dogs,⁷ but also reduced the anticoagulant effect of 4-hydroxycoumarin,⁸ and that this latter effect lasted from six to eight weeks. They suggested that these effects might be due to a stimulation of the hepatic tissue in the formation of prothrombin, and to an increase in plasma fibrinogen. Scherf and Schlachman⁹ also reported that the prothrombin and plasma coagulation times were shortened after the intravenous injection of aminophylline in human subjects. They observed changes after one hour, a maximum shortening at four to five hours, and a duration of as long as 24 hours. Other workers have failed to corroborate these results. Quick¹⁰ reported that the methyl xanthines did not increase the prothrombin level of the blood in dogs or rabbits. He also reported that the methyl xanthines gave no protection against the anticoagulant effect of dicumarol. Breyspraak and Greenspan¹¹ were unable to demonstrate any significant changes in prothrombin time in man after oral or intravenous doses of aminophylline.

Aminophylline and other methyl xanthines are widely employed for their diuretic effect in bedridden cardiac patients.¹² Scherf and Schlachman⁹ and Link,¹³ in discussing the increased coagulability of the blood caused by the methyl xanthines, emphasize the particular danger of this effect in cardiac cases, where thrombus formation is already an ever present threat. Link quotes Aschoff as follows: "The view that increased coagulability of blood is an essential point for the production of thrombosis has been strongly upheld, especially by clinical observers. The existence of this increased coagulability and the likelihood that it is a promoting factor, or better—an accompanying phenomenon of thrombosis, cannot

*From the Department of Pharmacology, College of Medicine, State University of Iowa. The data were taken from a thesis submitted by Helen Holland in partial fulfillment of the requirements for the degree of Master of Science.

be denied." In view of the conflicting reports on the action of the methyl xanthines on coagulation time, it was deemed worthwhile to reinvestigate this action.

Experimental

The data presented in this paper were obtained following the administration to dogs and human subjects of three derivatives of theophylline, namely: aminophylline, dihydroxypropyl theophylline* and theophylline sodium with glycine.† Maltine thromboplastin was used for all prothrombin times determined by the Link-Shapiro modification of the Quick method.^{14, 15} This thromboplastin was used because of the constancy of the results obtained with different ampules. The thromboplastin-calcium chloride suspension used was made by adding 5 cc. of 0.85 per cent NaCl to 50 mg. of the thromboplastin, heating the mixture in a water bath at 54-55 C. for ten minutes and then adding 5 cc. of 0.025 M CaCl_2 solution. The mixture was then centrifuged and the supernatant fluid used in the determinations, which were run on 100 per cent and 25 per cent plasma concentrations.

In some cases prothrombin times were also done by the Fullerton modification of the Quick method.¹⁶ Stypven (Russell viper venom) was used because of the consistent results that are obtainable with it and also because we wished to follow the method of Scherf and Schlachman⁹ as closely as possible. The procedure was modified slightly by drawing a platinum wire loop back and forth across the tube until fibrin threads clung to the loop. Plasma clotting times were determined by Cheney's modification of Howell's method of measuring prothrombin time.¹⁷ This procedure was simplified by using only one

CaCl_2 concentration (0.2 cc. of 0.025 M solution with 0.2 cc. of the plasma to be tested). The average of three determinations was taken as the prothrombin time and plasma clotting time of each plasma specimen. All determinations were completed within one hour after the blood was drawn to prevent any changes which might occur upon standing.¹⁸ The anticoagulant used in all cases was 0.1 cc. of 10 per cent potassium oxalate in 5 cc. of whole blood.

Studies on Dogs

The first study consisted of hourly determinations of prothrombin and plasma clotting times after the intravenous administration of various dosage levels of the three drugs. Four dogs were given 50 mg/kg of theophylline sodium with glycine intravenously immediately after blood had been drawn for control determinations. Prothrombin and plasma clotting times were repeated hourly for six hours after the administration of the drug. Three dogs were given 50 mg/kg and one dog was given 25 mg/kg of aminophylline intravenously after a control prothrombin and plasma clotting time. These determinations were repeated at two, four, and six hours after the administration of the 50 mg/kg dose and hourly for five

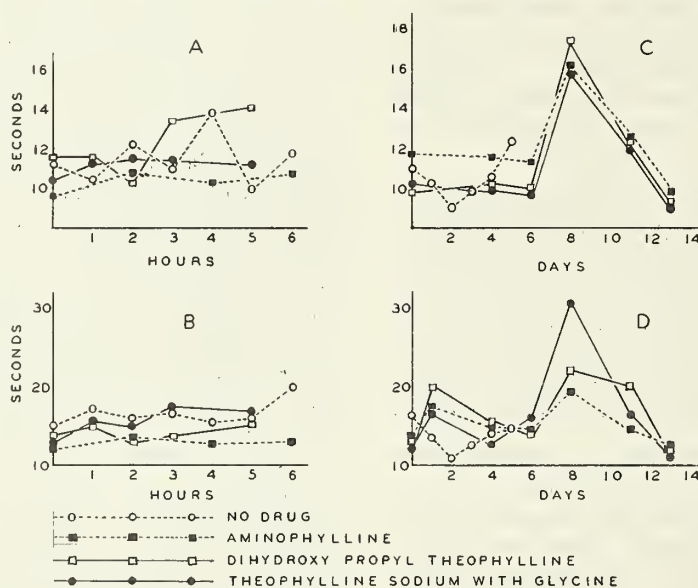


Fig. 1. The effect of three theophylline derivatives on the prothrombin times of dogs.
A. Fifty mg/kg of each drug. Prothrombin times determined on 100 per cent plasma.
B. Fifty mg/kg of each drug. Prothrombin times determined on 25 per cent plasma.
C. Daily oral doses of 20 mg/kg of each drug. Prothrombin times determined on 100 per cent.
D. Daily oral doses of 20 mg/kg of each drug. Prothrombin times determined on 25 per cent.

hours after the administration of the 25 mg/kg dose. Fifty mg/kg and 25 mg/kg of dihydroxypropyl theophylline were administered intravenously to two groups of two dogs each. Determinations of prothrombin and plasma clotting times were made immediately before the injection and after one, two, three and five hours. In a second experiment three dogs were given daily oral doses of 20 mg/kg of aminophylline, dihydroxypropyl theophylline or theophylline sodium with glycine over a period of thirteen days. Prothrombin and plasma clotting times were determined before the first dose and on

*Provided by Barlow-Maney Laboratories, Cedar Rapids, Iowa.

†Provided by Brayten Pharmaceutical Co., Chattanooga, Tenn.

the first, fourth, sixth, eighth, eleventh and thirteenth days thereafter.

In order to determine whether the theophylline derivatives used in these studies offer protection against the anticoagulant effect of dicumarol, the

third day, these animals as well as two additional dogs were given 10 mg/kg of dicumarol orally. Prothrombin and plasma clotting times were run before the first oral dose, and on the fourth, sixth, eighth, eleventh, thirteenth, and fifteenth days following this dose.

Studies on Human Subjects

Ten patients were chosen from the men's medical ward at the University of Iowa Hospital. None of these subjects had had any previous administration of any of the methyl xanthine derivatives. They were given an intravenous injection of 500 mg. of aminophylline, and prothrombin and plasma clotting times were determined immediately before, and at one, two, three and twenty-four hours after the injection.

Results

Figure 1 indicates that no significant changes occur in the prothrombin times during five hours following the intravenous injection in dogs of 50 mg/kg of theophylline sodium with glycine, aminophylline or dihydroxypropyl theophylline. When 20 mg/kg of these three compounds were administered orally to dogs every day for thirteen days, no significant change could be observed in the prothrombin times (fig. 1) or in the plasma clotting times. Similarly when the three drugs were given with dicumarol or when aminophylline was given previous to its administration, no reduction was noted in the ability of the dicumarol

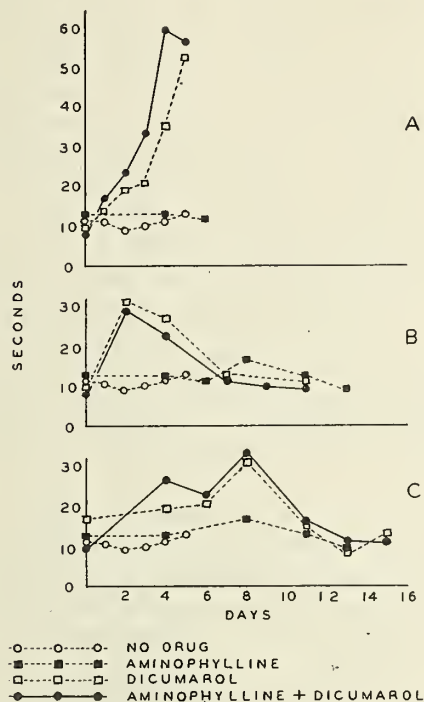


Fig. 2. The effect of aminophylline on the anticoagulant action of dicumarol. Curves indicate prothrombin times determined on undiluted plasma.

A. Two hundred mg/kg of aminophylline and 10 mg/kg of dicumarol given simultaneously to one dog. Both drugs given orally.

B. Ten mg/kg dicumarol and 100 mg/kg aminophylline given orally on first day. Fifty mg/kg aminophylline given orally on second and third days.

C. One hundred mg/kg aminophylline given orally on first, second, third and fourth days. Ten mg/kg dicumarol given on third day.

second series of dog experiments was conducted. Control prothrombin and plasma clotting times were determined on each of four dogs, which received, respectively: 10 mg/kg of dicumarol, 10 mg/kg of dicumarol and 200 mg/kg of aminophylline, 10 mg/kg of dicumarol and 200 mg/kg of theophylline sodium with glycine, and 10 mg/kg of dicumarol and 200 mg/kg of dihydroxypropyl theophylline. All drugs were administered orally in capsules. Three additional dogs were given 10 mg/kg of dicumarol orally after a control prothrombin and plasma clotting time. Two of these dogs received 100 mg/kg of aminophylline with the dicumarol, followed by 50 mg/kg of aminophylline on the second and on the third days. Prothrombin and plasma clotting times were run on the second, fourth, seventh, ninth, and eleventh days. In another series, 100 mg/kg of aminophylline were administered orally to each of four dogs every day for four days. On the

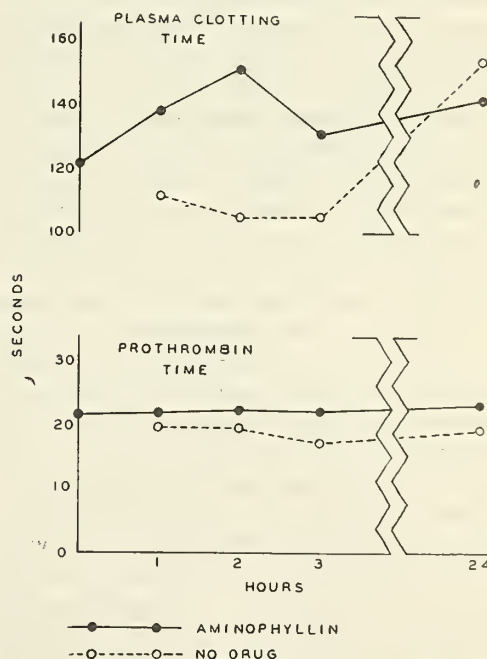


Fig. 3. The effect of aminophylline on the prothrombin and plasma clotting times of ten human subjects. Prothrombin times were determined on undiluted plasma.

to lengthen the prothrombin time. Representative results of aminophylline are shown in figure 2. Aminophylline (500 mg.) given intravenously to human subjects brought about no significant changes in the prothrombin or plasma clotting times (fig. 3).

Discussion

It is apparent from figure 1 that the methyl xanthines when given to dogs either in single intravenous doses, or in daily oral doses produced no shortening of the prothrombin times. The methyl xanthines, when given with dicumarol or aminophylline given previous to its administration, did not alter its anticoagulant effect (fig. 2). These results do not agree with those of Field, *et al.*⁸ who reported a shortening of the prothrombin times in dogs, rats, and rabbits, after single oral doses and after repeated oral doses of the methyl xanthines. These authors also observed that the methyl xanthines reduced the anticoagulant effect of dicumarol. Their method of determination of prothrombin times was similar to the one used in this study, except that they used a 12.5 per cent plasma concentration. This does not seem to explain the opposite results obtained, however, since Quick,¹⁰ using approximately the same procedures, and using a 12.5 per cent plasma dilution was unable to find that the methyl xanthines caused either a shortening in prothrombin times or a reduction in the effect of dicumarol on prothrombin times.

Aminophylline given orally to human subjects produced no shortening of the prothrombin or plasma coagulation times. These results are in accord with those of Breyspraak and Greenspan¹¹ but in complete disagreement with those of Scherf and Schlachman.⁹ Breyspraak and Greenspan, using Aggeler's standardization of the Quick method of determination of prothrombin times, and using a 12.5 per cent dilution of the plasma, reported no significant shortening of the prothrombin time after oral and intravenous administrations of aminophylline in human subjects. Scherf and Schlachman, using Fullerton's modification of Quick's method of prothrombin determinations with whole plasma, reported a significant shortening of prothrombin times and also of plasma coagulation times after both oral and intravenous administration of aminophylline to human subjects. They noted that there was no consistent correlation between prothrombin times and plasma clotting times. Although plasma clotting times were determined on all of our animal experiments, the results were so irregular that they were not included in the figures. Standard

deviations as high as ± 40 seconds were not uncommon in these determinations.

While numerous authors have suggested that the coagulability of the whole blood is altered by the methyl xanthines,¹⁻⁹ it is questionable whether determinations of whole blood clotting times are sufficiently accurate to demonstrate such changes. The greatest emphasis on the alteration of the clotting time has resulted from reported changes in prothrombin time. From the studies described in this paper, we find no evidence that the prothrombin times or plasma clotting times are in any way altered by the methyl xanthines.

Quick¹⁰ believes that changes in prothrombin times are not an accurate indication of changes in the coagulation time of whole blood, since other factors, especially the speed of thromboplastin release, are of greater importance in determining the coagulation time of blood. However, in spite of other factors involved, Plum¹⁹ has illustrated a direct correlation between prothrombin concentration (as indicated by prothrombin time) and the rate of coagulation, within a certain range of concentration. Thus it seems that had the methyl xanthines caused a hypercoagulability of the blood, this change would be reflected in the prothrombin times. It does not seem likely that the therapeutic use of the methyl xanthines is dangerous from the standpoint of shortening the blood coagulation time.

Summary

Prothrombin and plasma clotting times of dogs were not altered by the oral or intravenous administration of aminophylline, dihydroxypropyl theophylline, and theophylline sodium with glycine. Nor did these three xanthine derivatives cause any change in the anticoagulant action of dicumarol. Prothrombin and plasma clotting times of human subjects were not affected by intravenous aminophylline. Plasma clotting times when treated statistically proved to be of little value in determining the effect of the methyl xanthine derivatives.

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A REVIEW OF ENDOCRINOLOGY IN OBSTETRICS AND GYNECOLOGY

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Physiologic Consideration

Certain clinical syndromes are associated with dysfunctions of the endocrine glands. These dysfunctions may take the form of hyposecretion, hypersecretion, or of abnormal or perverted secretion. In addition, symptoms may result from failure of a tissue or organ to respond to the usual endocrinal stimulus.

Grossly diminished or absent function results in characteristic clinical entities which are usually obvious; cretinism and myxedema are expressions of gross thyroid failure. The clinical syndromes of Graves disease or exophthalmic goiter, and the hypoglycemia of hyperinsulinism are examples of overactivity of endocrine glands. Abnormal function of an endocrine gland is represented by the virilism and hirsutism associated with hyperplasia of the adrenal cortex. Apparent endocrine disorders due to refractoriness of certain target organ tissues are not uncommon, as exemplified by the lack of breast development in an otherwise normal woman.

The problems of the endocrine therapist fall into two general categories—alleviation of clinical symptoms by suppressing the function of an over-

active gland, or stimulative or replacement therapy for an underactive or missing gland. Hyperfunction is frequently due to a hyperplasia or neoplasm and may be treated by radiation or surgical extirpation. Thyrotoxicosis is usually attacked surgically, but with the advent of thiouracil and related substances, medical management may be more frequently employed.

The most common therapeutic problem of the endocrinologist is replacement or substitution therapy. Gland extracts or synthetic hormones are given to overcome the existing deficiencies. The use of insulin in diabetes mellitus and desiccated thyroid in myxedema and hypothyroidism are established therapeutic procedures. Other hormones are also available, but the indications for their clinical use and optimum treatment schedules are not so well established.

Endocrinology as applied to obstetrics and gynecology is primarily concerned with the hormones that contribute to sexual and reproductive functions in women. The ovary, being the source of the sex hormones as well as the ova, is the most important gland in female sexual physiology. The fact that the ovary is not an autonomous structure but is dependent upon pituitary hormones for its normal function has complicated the elucidation of its function. The present concept suggests that the gonadotrophic hormones of the pituitary stimulate the production of hormones by the ovary, and that these ovarian hormones in turn act upon the tissues and organs of reproduction and the secondary sex structures.

Thus, under the stimulation of the anterior pituitary, the ovarian follicles mature and estrogen is produced. The estrogen and progesterone of the follicular apparatus bring about a physiologic hyperplasia of the endometrium preparatory to nidation of a fertilized ovum. In the absence of pregnancy, the corpus luteum involutes and the predecidual endometrium undergoes an ischemic necrosis and hemorrhagic slough, which is the process of menstruation.

The follicular hormone of the ovary also produces development of the secondary sex characters, the breasts, the distribution of hair, and the feminine body contours. While the development of the glandular tissue of the breasts is under the control of ovarian hormones, the initiation and maintenance of lactation is apparently a direct action of prolactin, another hormone from the anterior pituitary.

A brief resume of the important functional interrelationships of the ovary and the pituitary may be helpful as a basis of a discussion of the diag-

nostic methods used in the study of gynecologic endocrine problems. The gonadotrophic hormones of the anterior pituitary are proteins but have not yet been isolated. There are two and possibly three hormones in this gonadotrophic complex. The follicle stimulating and the luteinizing hormones probably act in sequence and synergistically to bring about maturation of the graafian follicle, ovulation, and development of the corpus luteum. There may be a third hormone which maintains the functional activity of the corpus luteum. In laboratory animals, prolactin is very effective in maintaining a functional corpus luteum but such an effect has not yet been demonstrated in women. Chorionic gonadotrophin has been shown to be luteotrophic in women and is the hormone responsible for maintaining the functional activity of the corpus luteum of early pregnancy.

A peculiar reaction occurs in the pituitary after surgical removal of the ovaries. It tends to increase in size, and to produce large quantities of gonadotrophic hormone which can readily be demonstrated in the urine. This excessive excretion of pituitary gonadotrophin in the urine is so characteristic of castrates that its presence is diagnostic. It is commonly found in postmenopausal women, in congenital aplasia of the ovaries and in secondary amenorrhea due to ovarian failure. The laboratory test for urinary gonadotrophin is a bio-assay based on a modification of the Aschheim-Zondek test. A twelve or twenty-four hour urine specimen is obtained (the individual specimens are chilled immediately on voiding and kept cold during the period of collection). The hormone is precipitated from the urine, dried, and prepared as an aqueous extract for injection into infantile female rats or mice. An amount of extract equivalent to a three hour urine sample is given to each test rat in six divided doses (two each day for three days), and the animals are autopsied on the fourth day, 72 hours after the initial injection. The gonadotrophic hormone present in the urine will stimulate the infantile rat ovary to development. Such ovarian stimulation may be evident grossly or the ovaries may be weighed as a rough quantitative estimation of stimulation. If the extract from a three hour urine volume produces marked stimulation (100 per cent increase in ovarian weight), one can assume that the patient is a castrate, or has *no* ovarian function; if the patient has normal ovarian function, even twelve hour urine samples may not contain enough gonadotrophin to cause any stimulation of the test rats' ovaries. Until methods for

using larger volumes of urine are available, it is not feasible to do quantitative assays on urines from patients with hypopituitarism. Since gonadotrophin *may not be detected* in a three hour urine sample from women with normal ovarian function and those with hypopituitarism, interpretation of the gonadotrophic assay must be correlated with other evidence of ovarian function as determined by clinical examination, vaginal smear and/or endometrial biopsy. It is assumed that a low (normal) gonadotrophic output in the absence of demonstrable ovarian function is indicative of hypopituitarism.

The quantitative estimation of the ovarian hormones can be made by laboratory colorimetric or bio-assay methods. The common determinations are made on the urine since recoveries from blood serum are not yet practical. The extracted estrogenic hormones are dissolved in oil or propylene glycol and injected into spayed rats or mice. The corpus luteum hormone, progesterone, is excreted as an inactive substance, pregnandiol, which can be recovered and purified by fractional solubility procedures. Some of the chemical procedures of isolation and purification are so empirical that quantitative yields are not consistently obtained.

Fortunately, the patient herself can be used as a convenient measure of the normalcy of ovarian hormone levels. A complete physical examination, together with vaginal smears, endometrial biopsies and occasionally x-ray of the epiphyses, gives a more satisfactory estimation of ovarian function than do assay studies. If a patient has amenorrhea not due to a pregnancy or anatomic causes, it is obvious that the ovarian estrogens are inadequate to stimulate cyclic changes in the endometrium. Microscopic examination of a vaginal smear will determine whether the estrogen production is adequate to maintain a normally cornified vaginal mucosa. Infertility in the presence of fairly normal menstrual cycles may be due to a deficient or absent luteal phase of the cycle (anovulatory menses). Endometrial biopsy taken during the premenstrual week will afford histologic evidence of the presence or absence of a normally functioning corpus luteum. The absence of a secretory pattern in the endometrium indicates that ovulation has not occurred or that the corpus luteum has not formed normally and that the sterility may be due to ovarian insufficiency. Metrorrhagia in the absence of organic lesions can usually be shown by endometrial biopsy to be from an estrogenic endometrium which is indicative of partial ovarian failure, either primary or secondary.

There is a small amount of androgenic sub-

stance, male hormone, present in the urine of normal women with a transitory increase at the time of puberty. Excessive amounts of androgen may be responsible for masculinization. The androgenic substances excreted in the urine are known to chemists as 17-ketosteroids and may be assayed biologically or by chemical colorimetric estimation.

In pregnancy the placenta takes over the ovarian function so completely that the ovaries can be removed after the thirtieth to fortieth day without affecting the pregnancy. The placenta produces much larger quantities of estrogen and progesterone than are ever produced by the ovaries. The trophoblast also elaborates a hormone, chorionic gonadotrophin, which maintains the corpus luteum during the first few weeks of pregnancy while the ovum is becoming implanted and the placenta is being formed. This chorionic hormone is peculiar to women since it is not present in the urine of pregnancy in any subprimate species. It is the substance which gives the Aschheim-Zondek reaction in rats, mice, and the Friedman reaction in rabbits.

Aside from the endocrinal aspects of abnormal function of the female reproductive organs, there are the less specific metabolic factors which must be considered. Malnutrition and debilitating diseases must be treated before any specific sex hormone therapy is attempted. Thyroid dysfunction should be corrected. The specific relationship between the thyroid and ovary is not known. It may be that the thyroid hormone is merely a general metabolic stimulant, but its use is frequently effective in restoring normal ovarian function and fertility.

Endocrine therapy is always replacement therapy in that it substitutes for a missing hormone or augments a subnormal level of hormone production. The hormones of the pituitary are trophic hormones and stimulate other endocrine glands to produce their respective hormones which tend to act directly on the tissue of a target organ or on a chemical process in the body. The thyrotrophic hormone of the anterior pituitary stimulates the thyroid to increased production of thyroxin, and similarly the gonadotrophic hormones of the pituitary stimulate the gonads to produce the sex hormones. Although the trophic hormones stimulate another endocrine gland and are in that sense stimulating, their use represents replacement therapy at a higher level.

Endocrine therapy as a substitution procedure is rarely curative. Diabetic patients that require insulin must continue its use indefinitely if control is to be maintained. Hypothyroid patients

will need thyroid as long as they wish relief from symptoms. Certain transient conditions such as amenorrhea may appear to be cured by endocrine therapy but such permanent cures may actually be due to a concomitant correction of an underlying metabolic disturbance. Obese patients with menstrual irregularities are benefited by a reduction in weight, and adequate diet and rest will aid in the restoration of menstrual regularity in girls of high school age.

The dosage of hormones cannot be fixed or calculated. Each patient must be treated for her individual needs and an optimum dose may be found only by a trial and error process. The variations in the insulin requirements of diabetic patients are well known. The tolerance of various patients to thyroid is also very striking. Some patients experience marked nervous and cardiac reactions to 1 or 2 grains of thyroid daily while others may tolerate 6 or 8 grains without any symptoms. In general, it may be stated that if a patient has a real deficiency, a relatively small dose of hormone will have a marked beneficial effect. And as a corollary to this, if a patient does not experience any relief of symptoms on a supposedly average dose of hormone, it must be considered as evidence that the patient may not actually have a deficiency or has a very high tolerance for the hormone.

Clinical Syndromes

This brief review of the basic physiology and the scope of gynecologic endocrine therapy serves as a basis for consideration of the various clinical syndromes. These have been arranged in chronologic order in accordance with the age of the patient at which they are most apt to occur.

Prepuberal Vaginitis

This condition is apparently becoming less common. Perhaps the introduction of the antibiotic drugs has reduced the incidence of gonorrhea in the adult female members of the population. The clinical manifestation of this condition begins rather insidiously with vaginal discharge and vulval pruritus. Both of these are apt to be mild for a few weeks and not attract much attention. The infection is then likely to become more acute, and a rather copious discharge appears. The discharge is irritating and will produce a vulvitis. Only occasionally does the child complain of pain, but there is both conscious and an unconscious scratching. Occasionally there is an associated urinary frequency. This acute phase subsides spontaneously after a period of two to four weeks,

but the vaginitis may persist in a chronic state for a number of months.

The etiology of chronic vaginitis is in dispute. It has been said that most cases are due to gonorrhea, but recent experience does not support this contention. Most of the patients seen today do not harbor the gonococcus but rather a nonspecific mixture of Streptococcus, Staphylococcus, and a miscellaneous group of nonspecific organisms. Occasionally foreign bodies will be found in the vagina, and cervical and vaginal polyps may be present.

The diagnosis of vulvovaginitis in these patients is simple, and is usually made from the history supplied by the mother and confirmed by inspection of the genitalia. However, such superficial diagnosis is unsatisfactory, and empirical therapy based on such superficial observation will usually fail. The child should be thoroughly and carefully examined under anesthesia. It is necessary to dilate the introitus sufficiently to admit the examining finger and a small speculum. Cultures of the discharge should be taken. Only in this manner can one avoid the treatment pitfalls of using medicinal therapy in the presence of foreign bodies, polyps, and nonspecific infections. This examination will reveal an exact diagnosis and permit specific therapy.

The treatment of these patients depends on the etiology of the condition. The local application of the drugs is relatively difficult and ineffective in these children. Antibiotics have not been particularly helpful in chronic cases. The best results can be obtained by individualized therapeutic schedules based on exact diagnosis.

In acute and subacute gonorrheal vaginitis, oral or parenteral antibiotics and estrogens will usually completely cure the condition. The antibiotic destroys the gonococcus, and the estrogen induced cornification of the vagina eliminates the secondary infection which commonly follows.

In chronic nonspecific vaginitis, antibiotics are of little or no value. Estrogen induced vaginal cornification increases the resistance of tissues and renders the vagina acid, thereby favoring a normal vaginal flora. The estrogens should be given to the point of full vaginal cornification. The degree of estrogen saturation necessary varies with the patient and can be best controlled by vaginal smears. These should be taken at weekly intervals until full cornification has been obtained, when all forms of therapy may be discontinued. This will be followed in four to five days by a vaginal discharge due to a withdrawal slough

from the vagina and cervix, and the majority of the patients will be cured.

Foreign bodies and polyps must be removed. It is wise to follow their removal by estrogen cornification for protection against chronic nonspecific vaginitis.

The amount of estrogen required varies with the agent used, but must be adequate to establish vaginal cornification as determined by vaginal smears yet below the level of endometrial proliferation. Overdosage occasionally causes undue breast enlargement and may incite withdrawal bleeding at the end of treatment. It is unwise to use estrogenic therapy in gonococcal infection if the young girl is approaching puberty. Under such circumstances, the development of the uterine endometrium and tubal epithelium might permit an ascending infection and salpingitis. No other complications have been noted.

Sexual Precocity

Precocity is defined as the premature onset of a physiologic function. Sexual precocity usually means premature development of some portion of the genital system. Because of the wide range of normal, it is generally accepted that normal menarche and associated sexual development may occur as early as the tenth calendar year; any development prior to this age may be considered precocious. There are two varieties of precocity: simple and heterosexual. The simple variety is entirely feminine whereas the heterosexual will show some evidence of masculinization.

Several factors may be responsible for the development of precocity. In certain girls it is *familial* in origin and is considered physiologic. These individuals show no abnormalities and proceed to develop normally in an orderly fashion. Undoubtedly such was the case in the young Peruvian girl who conceived at the age of six years.

The second etiologic factor is *pituitary hyperplasia or neoplasm*. Under these circumstances the individual will show generalized pituitary hyperactivity in which the sexual precocity becomes an obvious change. These patients are usually tall, have an elevated basal metabolism, an elevated urinary ketosteroid output, a well cornified vaginal mucosa, and developed breasts and external genitalia. They may also present evidence of other endocrine disorders such as hyperthyroidism or diabetes mellitus.

The third variety of precocity is caused by *ovarian tumors*, which may produce either simple or heterosexual precocity depending upon the type of secretion elaborated by the tumor. Granulosa

cell tumors secrete the female sex hormones and stimulate the development of all the secondary sex characteristics. The breasts and external genitalia develop to the matured state within a relatively short time. Irregular menstruation may ensue. The diagnosis is not always obvious because these tumors may be very small. The other ovarian neoplasm causing precocity is the arrhenoblastoma, a masculinizing tumor which secretes the male hormone and produces hypertrophy of the clitoris, acceleration of the growth and development of heavy bone and muscular structures, and the appearance of acne and body hair. The internal genitalia do not participate in this development and the breasts remain infantile.

The fourth variety of precocity is due to *adrenal hyperplasia* or neoplasia which, like the arrhenoblastoma, produces heterosexual development with a tendency to masculinization. The ketosteroid content of the urine is high. The absence of a pelvic tumor in heterosexual precocity suggests this diagnosis.

A differential diagnosis of the etiology of precocity is often difficult. Patients with pituitary precocity can usually be recognized by the associated findings in the other endocrine organs. If they show accelerated basal metabolism and increased growth, together with precocity, suspicion should be directed at the pituitary. If the ovary is capable of response, the development is definitely feminine, but if the ovaries are absent or refractory, the adrenals may become hyperactive and produce a heterosexual precocity. The presence of signs from other organs helps to differentiate this group from those due to a primary adrenal disorder.

Sexually precocious children are not a common clinical entity, but they present a distressing problem for the family and the school, and usually develop emotional difficulties due to their problems in social adjustment. The treatment of these patients is beyond the endocrinologist. There is little endocrine therapy which is of value. If a tumor can be demonstrated, surgical removal is in order. If, as is more commonly the case, there is hyperplasia, one must await the "burning out" of the hyperactive gland. Direct x-ray therapy to such hyperactive glands and the exhibition of estrogens to depress pituitary activity are usually unsatisfactory.

In the heterosexually precocious children, palliative treatment by plastic surgery may be necessary to render them socially acceptable. Exploratory laparotomy may be necessary to determine the anatomic and pathologic conditions. The family should be advised of the future possibili-

ties. A complaint by the girls that, "a boy is in our rest room," demands investigation, since it presents a distressing problem to the school authorities, to the girl, and to her associates. Plastic surgery on the external genitalia can render these children acceptable to the rest of the girls.

Delayed Menarche and Primary Ovarian Insufficiency

Delayed puberty, primary amenorrhea, hypogonadism, and the so-called Frohlich's syndrome are included under this heading. (The ovarian failure of the menopause will be discussed separately.) The age of menarche varies widely; and while some girls spontaneously establish menstruation at a later age, the sixteenth or seventeenth year is usually considered the upper limit of normal. The etiology of the delayed menarche is variable, but the factors can be grouped under five general categories.

As with precocity, a *familial* history is important, for some of these patients are late maturing on a hereditary basis.

The second most common cause of delayed menarche is *nutritional*. These patients may not present obvious malnutrition but may show specific deficiencies of protein, iron, and vitamins. If the deficiency is extreme, the onset of menstruation may be delayed pending the accumulation of reasonable stores of food elements. The supplementing or careful regulation of the dietary intake is often all that is necessary for initiation of menstruation. Similar deficiencies may be present in obese girls whose diet is grossly unbalanced.

The third cause of delayed menarche is *pituitary hypofunction*. Under these circumstances, the individual shows a generalized endocrine failure with a low basal metabolic rate, short stature, delicate infantile development, low ketosteroid and estrogen output.

The fourth factor in delayed menarche is *ovarian hypoplasia*. These patients are tall, eunichoid, and show failure in the development of secondary sexual characteristics. There may be some heterosexual tendency due to adrenal stimulation. Because of the ovarian aplasia or refractoriness, the pituitary gonadotrophin in the urine is high, the basal metabolic rate is normal, the ketosteroid output is normal or slightly elevated, but the estrogen output and the development of secondary sexual characteristics are retarded or absent.

The last cause of delayed menarche is that due to *anatomic defects*. While such conditions are not common, they are frequently mismanaged.

Patients with no uterus, ovaries, or vagina cannot, under any circumstances become fertile. All degrees and types of anatomic defect are seen. The young girl who has normal ovaries but no uterus will show normal secondary sexual development but will never menstruate. The individual who has a normal uterus but no ovaries remains neuter because of lack of feminine development; she can, however, be made to menstruate.

Appropriate treatment can be instituted only after making an exact diagnosis based on careful history, examination, and laboratory data. Such an evaluation will usually permit not only a fairly exact statement as to the cause of the amenorrhea but will also permit an accurate prognosis. In the familial group (those patients who are anatomically, nutritionally, endocrinologically normal, and exhibit simple functional delay) no treatment is necessary. "Stall for time." If the family or the patient insists on treatment, one may use small amounts of thyroid or estrogen to assist in the development of secondary sexual characteristics. *Don't overtreat* this group of patients.

In those who show anatomic defects, treatment depends on the type and extent of the anomaly. Plastic surgery cannot create a functional ovary or a uterus. However, in the absence of ovaries, replacement therapy can induce fairly normal development of the secondary sexual characteristics and satisfactory feminization. If a uterus is present, the patient can be made to menstruate. Absence of the vagina can be corrected by plastic surgery. These patients will never ovulate or conceive, but they can be assured a reasonably normal sexual life.

In those women who show pituitary or ovarian hypoplasia, therapy is limited to simple ovarian replacement. Until potent gonadotropes are available and clinical schedules have been established, it is advisable to make replacement at the ovarian level. The uterus can be stimulated by estrogen and on the withdrawal of the estrogen the patient will menstruate. The breasts and external genitalia can be stimulated to near normal proportions. Once the development induced by stimulation has reached a maximum, discontinuance of therapy will result in partial loss, comparable to that which occurs at the menopause. Menstruation induced by replacement therapy ceases when treatment is stopped. Occasional patients with pituitary or ovarian hypoplasia may show partial clinical recovery even at 20 to 25 years of age, but such ovarian function is usually short lived and incomplete.

Secondary Ovarian Failure (Meno-metrorrhagia)

Failure of ovaries which have previously been functioning normally or nearly so, initiates a train of symptoms which, while diverse in their objective appearance, have the same common etiological factor. Ovarian failure may be catalogued into grades of severity depending on the clinical level to which the failure progresses. The first grade of ovarian failure is simple anovulation in which sterility may be the only clinical manifestation. These patients will usually have cyclic vaginal bleeding resembling menstruation. If the ovaries fail further, various types of irregular or continuous bleeding will appear. Complete ovarian failure results in amenorrhea. These transitions are exemplified in the physiologic changes of the menopause but they may appear at any age.

The importance of the symptoms produced by ovarian failure varies with the clinical manifestations as well as with the age and reproductive wishes of the patient. Menorrhagia is the most common symptom and the most difficult to treat. It must be emphasized that while menorrhagia may be due to ovarian failure, it may also be caused by benign and malignant uterine neoplasms, and by various complications of pregnancy. The bleeding associated with neoplasm and with a pregnancy episode is frequently indistinguishable from the menorrhagia of ovarian failure except by a careful curettage. Since the latter two are nonendocrinal in origin, they will not be discussed.

The etiology of secondary ovarian failure may be roughly divided into three categories; it may be pelvic, systemic, or endocrine. The pelvic lesions most frequently responsible for secondary ovarian failure are infections, partial surgery, ovarian senility, and neoplasm of the ovary. Systemic factors are primarily nutritional or infectious in origin. The endocrinal causes of secondary ovarian failure may originate anywhere in the endocrine system, the pituitary, the thyroid, the adrenal, the pancreas, and occasionally an endocrinal tumor of the ovary itself.

Since secondary ovarian failure may be caused by a variety of factors, may produce a variety of symptoms, and may occur at any age from adolescence to the menopause, treatment must be completely individualized. When ovarian failure is secondary to a systemic disorder, the treatment becomes obvious. This is likewise true for local pelvic infections and surgical derangements of the ovarian blood supply. Antibiotics, heat, foreign protein, nutrition, exercise, and change in climate are all useful in improving ovarian func-

tion in certain patients. If the ovary has been crippled significantly, there is no endocrine method of restoring it to normal. At the present time, ovulation cannot be induced in a damaged ovary. Symptomatic endocrine treatment can be instituted, but it is replacement therapy and must be continued to maintain the clinical benefit.

Adolescent menorrhagia will frequently cure itself: these young women "outgrow" their difficulties. Under these circumstances, it is wise to use as simple therapy as possible. Dilatation and curettage may tide a patient over for a year or two; the use of transfusions and an occasional estrogen induced artificial cycle will permit the patient to cure herself.

In most patients with functional bleeding, symptomatic improvement can be obtained by therapy designed to replace the normal secretion of the crippled ovary. If the crippling is temporary and the ovary recovers, treatment may be discontinued later. If, however, the ovarian damage is considerable and is permanent, improvement can be obtained only so long as replacement ovarian hormone therapy is continued. The cyclic use of large doses of estrogens is generally recommended. The dosage must be largely individualized but a general schedule is as follows: 1 mg. of estrogen (stilbestrol) given daily for a week followed by 2 mg. daily for a week, followed by 3 mg. daily for a week. With the initiation of estrogen administration, bleeding will usually stop or become insignificant. Upon the discontinuance of treatment, withdrawal bleeding will occur resembling normal menstrual period. Progesterone may be added during the last week of this schedule, but the expense and minimal benefits usually preclude its long time use. When given, 20 to 40 mg. of progesterone per day for four to eight days are required to produce detectable histologic change in the endometrium.

Since endocrine therapy is replacement therapy and since it must be maintained to continue its benefits, it is used chiefly among younger women. There is usually some better method of treating these patients in the older age groups. It is seldom justifiable to maintain endocrine therapy for long periods of time after the age of 35 to 40 years. Irradiation or surgery will offer the patient more satisfactory results. Patients showing secondary ovarian failure, regardless of its etiology or clinical grade, are given thyroid empirically because of its "nonspecific metabolic stimulating effect."

Amenorrhea responds well to replacement therapy. Even infantile uteri may be developed to

normal size and be induced to bleed at near normal intervals. The continuance of such a state is dependent upon continued ovarian hormone replacement.

Anovulatory sterility is not responsive to specific endocrine therapy because there is no pituitary gonadotrophin capable of inducing ovulation in the human female. However, the empirical use of thyroid is frequently beneficial and represents one of the most gratifying forms of endocrine therapy.

Dysmenorrhea

Dysmenorrhea may be defined as cramping pelvic pain associated with menstruation. A variety of other symptoms have been included in dysmenorrhea but as a rule they are of some other origin and will not be discussed. The etiology of dysmenorrhea is unknown. Many theories have been advanced but none has withstood scientific evaluation. As a rule primary dysmenorrhea is associated with normal ovulatory ovarian cycles.

Certain organic disorders such as endometriosis, pelvic inflammatory disease and cervical stenosis may occasionally cause dysmenorrhea. If these conditions can be excluded, one may recommend endocrine therapy with fair assurance that the patient can be made quite comfortable so long as she follows the prescribed schedule.

Since the etiology of primary dysmenorrhea is unknown, treatment becomes entirely symptomatic and empirical. Two things are established; most women tend to outgrow this discommoding symptom, and pregnancy usually relieves them.

Thyroid is given to these patients almost routinely, the dosage being regulated by the basal metabolic rate and the patient's clinical response. About one half of the patients will benefit from this medication.

Secondly, these patients will usually have painless menstrual periods if the bleeding can be made anovulatory. The suppression of ovulation can fortunately be accomplished quite readily by the use of estrogens and the patient can be relieved of cramps for six to ten months out of the year. Continuous suppression of ovulation cannot be obtained by this method, but two or three consecutive months of painless menstruation are usually possible. The patient will then often have a painful period and the schedule can be resumed. Treatment must be begun within three to five days after the onset of menses. The same general schedule is used: 1 mg. of estrogen is given each day for a week, 2 mg. a day for a week, and 3 mg. a day for a week. (If given in the late afternoon or at bedtime, nausea is absent or insignificant.) This continues the medication to

the twenty-third to twenty-fifth day of the cycle and anovulatory bleeding usually begins on the twenty-seventh to thirtieth day. Such bleeding is usually painless. Experience suggests that it is best to carry out this schedule for two to three months and then permit the patient to have a normal (ovulatory and painful) menstrual cycle after which the schedule may be resumed.

Failures of this therapeutic plan are due to one of three causes:

a. An insufficient amount of estrogen was given. This may be determined by an endometrial biopsy taken just after completion of the estrogen therapy. If the endometrium obtained showed progestational changes, the amount of estrogen was insufficient.

b. The estrogen was started too late in the cycle.

c. This plan will not be effective for more than two or three consecutive months.

One must not lose sight of the fact that many patients can be benefited by the use of pelvic heat, corrective exercises, anodynes including codeine, and these may provide all that is necessary to render the patient sufficiently free of symptoms to be able to continue her usual activity.

Threatened and Habitual Abortion

The diagnosis of threatened abortion is difficult. If one includes in this category all patients who have bleeding or cramps in the first three months of pregnancy, the incidence is very high. Most patients with such symptoms are having some physiologic change associated with placentation, and the bleeding, while indistinguishable from that of threatened abortion, carries no threat to the pregnancy. Because of this, many patients having these symptoms are classified as threatened abortions, and any treatment which is applied to them will be effective, since they are not actually threatened abortions, and therefore, need no treatment. It is probably this factor which is responsible for the large variety of therapeutic regimens offered for the successful treatment of threatened abortion.

The etiologic factors in threatened and habitual abortion can be placed in three categories. The majority of abortions are due to some defect in the germ plasm or to an abnormality of placentation. Others are caused by systemic disorders, chiefly nutritional deficiencies and hypothyroidism. The third group are associated with premature involution of the corpus luteum. This latter group represents only a small proportion of the clinical picture of threatened and habitual abortions but is the only one that can be benefited by endocrine therapy.

Since the majority of women abort because of an abnormality of the embryo, the defect is present at the time of conception and any therapy will fail. These embryonal defects may originate in either the ovum or the sperm or in both. Thus, effective treatment should begin before the patient conceives and be directed at the gametes of both husband and wife. By the time bleeding or cramps have developed, little benefit can be derived from any treatment.

The only women with threatened abortion who could benefit from endocrine therapy are those in whom there is premature involution of the corpus luteum. Theoretically, one should be able to compensate for this deficiency until the placenta is sufficiently matured to take over the production of progesterone. However, the present commercial cost of this material makes adequate therapy almost prohibitive. Recent studies indicate that the human physiologic requirement for progesterone is above 50 mg. per day. Chorionic gonadotrophin will cause persistence and augmentation of the corpus luteum if given in doses of 5,000 to 10,000 I.U. per day, but such preparations are not yet available commercially.*

In habitual abortion, treatment of both partners should begin before conception and should include a regulated hygienic regimen, meticulously adequate diet, desiccated thyroid given empirically, and discontinuance of smoking. When the amenorrhea of the suspected pregnancy develops, the patient should be given large amounts of chorionic gonadotrophin (5,000 to 10,000 I.U. daily) or 30 to 40 mg. of progesterone daily for two or three months.

Clinical Syndromes of Abnormal Uterine Contractions: Induction of Labor, Inertia, and Postpartum Hemorrhage

Many theories have been advanced to explain the mechanics of the onset of labor and contractions of the uterus, but none adequately explains the phenomenon. That the extract of the posterior lobe of the pituitary bears some relationship to uterine contractions is evident, but the nature of this relationship has not yet been determined.

The induction of labor by the use of oxytocics is effective in about only 30 per cent of patients near term. The pre-induction sensitization of the uterus by estrogen, calcium, and quinine have proved quite worthless. In order to insure the onset of labor, it is necessary to combine rupture of the membranes with the administration of oxytocics.

Uterine inertia obviously represents some de-

*Parke Davis & Co., and Ayrest, McKenna & Harrison now offer Chorionic Hormone in concentrations of 2000 I.U. per cc.

rangement of the physiology of uterine contractions, but it is not clear whether this represents failure in the force of the contractions or in the extent of relaxation of the uterine musculature. Regardless of the theories inertia is not significantly benefited by endocrine therapy. The administration of estrogen, quinine, calcium, and other similar agents has no reliable effect on these abnormal uterine contractions. The addition of post-pituitary extract, even in large amounts, in our experience has little or no influence on the course of these abnormal labors.

Postpartum hemorrhage due to atony is today of infrequent occurrence in well staffed hospitals, but it still causes many deaths each year. This alarming complication is usually due to some mismanagement on the part of the physician rather than to any intrinsic defect or abnormality of the endocrine system or of the uterus. The depth of the anesthesia, the prior use of oxytocics, and premature attempts at expression of the unseparated placenta all contribute to the atony and hemorrhage. It is generally believed that the ergonovine products are superior to pituitrin in the control of atonic postpartum hemorrhage. At times, however, intravenous and intramuscular injections of ergotrate may fail to induce and maintain adequate uterine contraction for the control of bleeding. Under these circumstances, the intravenous injection of pitocin (not pituitrin) may be dramatically effective.

Breast Engorgement, Suppression of Lactation and Galactagogues

During recent years the physiology of breast engorgement and the initiation of lactation have been extensively studied. The basic process can now be described as follows: anatomically the breast is prepared for lactation by the high estrogen and progesterone levels of pregnancy. The lactation hormone of the pituitary is held in abeyance by the high estrogen level from the placenta. With expression of the placenta and the sudden drop in estrogen level, prolactin is released from the pituitary in large amounts and stimulates the vascular and lymphatic engorgement of the breasts. This vascular change converts a non-lactating breast to a potentially lactating one. The maintenance of secretion is dependent on repeated stimulation of the nipple by suckling and periodic emptying of the breast.

Thus, suppression of breast engorgement requires continuance of the high level of estrogen followed by a gradual drop in estrogen concentration over a number of days. Forty to 60 mg. of estrogen, usually stilbestrol, given during the first three to five days following delivery are

usually effective. The first dose must be given within twenty-four hours following delivery. This schedule delays breast engorgement and reduces its intensity. These two factors, combined with the absence of suckling, reduce the lactation changes to a minimum. Once lactation engorgement has been established, estrogen is of little or no value.

In women with deficient lactation, four factors are involved: an inadequate response of the breasts to endocrine stimulation, incomplete or slow estrogen withdrawal, inadequate prolactin production of the pituitary, and inadequate sucking stimulus. In certain patients in whom the mammary tissues are refractory to all forms of stimulation, no therapy is effective. Some patients have a small portion of retained placenta that continues to elaborate estrogen which interferes with the normal release of pituitary prolactin. Experimentally, prolactin is potent in the laboratory animals, but to date its clinical application has not been successful. The best galactagogue available is still a vigorous sucking infant.

Frigidity and Other Sexual Derangements

This subject is introduced in a review of endocrinology with some reluctance for fear that undue emphasis will be placed on its endocrine aspects. The majority of such difficulties are emotional or psychosexual in origin, but a few are due to anatomic defects. Patients complaining of frigidity and dyspareunia require careful physical and psychologic examination to evaluate the organic and emotional factors involved. Treatment is primarily a matter of sex education and psychosomatic therapy applied to both partners.

All varieties of chemical and hormonal aphrodisiacs have been employed without benefit. In certain women, however, enlargement and increased sensitivity of the clitoris can be obtained by androgens applied locally, and such treatment has been reported to be of value. We have had no experience with this schedule and it seems of questionable value.

Androgenic or Virilizing Syndromes (Adult)

As indicated in the discussion of precocity, androgenic syndromes, or virilism, which may appear at any age, fall into four etiologic classifications: (1) they may be of familial origin; (2) they may appear in the menopause when ovarian failure permits an excessive amount of pituitary hormone to stimulate the adrenal; (3) they may be associated with adrenal hyperplasia or neoplasia; and (4) they may be the result of masculinizing ovarian tumors.

Androgenic syndromes and virilism usually

manifest themselves in one of three clinical forms: hirsutism, clitoridean hypertrophy, and amenorrhea. Of these, hirsutism is the most common and troublesome. The differential diagnostic aids have been discussed under the section on precocity.

There is no effective endocrine treatment for these conditions. Quite exact endocrine diagnosis is possible by detailed laboratory studies. A ketosteroid determination is of considerable help. A normal level of urinary ketosteroids is found in the familial or genetic type of hirsutism whereas an increased output usually indicates an increased production of androgen which in all probability is responsible for hirsutism. A search should be made for an adrenal hyperplasia or neoplasm, or an arrhenoblastoma of the ovary. If a tumor of either the adrenal or ovary can be demonstrated, surgical removal is in order. In the majority of these patients, no tumors are found, the masculinization being associated with an intrinsic or a secondary castration hyperplasia of the adrenal. Occasionally, large doses of estrogen will decrease the androgen excretion as measured in the laboratory. However, once the hirsutism has been established, estrogen depression has limited clinical effect; beard growth does not disappear and the decrease in the rate of hair growth may be so slight as to be of little value.

These patients should be referred to a competent cosmetologist for correction of their hirsutism.

Kraurosis and Senile Vaginitis

These two conditions are considered together because in all probability they represent a non-specific infection superimposed upon an excessive or abnormal genital epidermal atrophy. While many theories have been advanced, their etiology is still unknown.

The diagnosis of these conditions is made primarily by inspection, biopsy, and/or vaginal smears. Many of these lesions respond satisfactorily to local or systemic applications of estrogens. In patients with senile vaginitis, the epithelial cornification and lowered pH induced by estrogens tend to establish a normal vaginal bacterial flora so that the symptoms are controlled even after cessation of treatment. Women with kraurosis may be tided over a number of months or years on symptomatic treatment until the condition spontaneously subsides.

When estrogens are used systematically, they should be given cyclically—two to three weeks of treatment followed by one week without treatment. Under such a program involving small amounts of estrogen, most patients can be made

comfortable, and they will avoid vaginal bleeding. Local application of estrogen may be very effective in some patients and is rarely associated with vaginal bleeding.

Extensive Malignancies

The treatment of extensive malignancies by hormones has recently become popular. Continued growth of cancer of the prostate and its metastases are in part dependent on the presence of androgens. Castration reduces the source of these hormones and thus brings about clinical improvement. The use of large doses of estrogen to produce a functional castration via pituitary depression was found to be equally effective. Since "estrogen castration" in the male is effective in alleviation of the symptoms of prostatic carcinoma and its metastases, similar attempts were made to improve the lot of women suffering from genital and breast carcinomas by the use of androgens. Unfortunately, such therapeutic parallelism does not exist; these tumors do not depend on estrogens for their continued growth. Patients with extensive malignancies are benefited, however, from the administration of androgens, not so much by the effect of the androgen on the malignancy as by their pharmacologic effect on general metabolism. Five hundred to 3000 mg. of androgen given over a month will cause marked improvement in nitrogen retention and a feeling of well being. These improvements are temporary and in due course the patient suddenly has a rapid remission and soon dies. Such treatment holds a limited place in symptomatic palliative therapy of extensive malignancy with bone metastases.

Menopause

The menopause is probably the most treated, overtreated, and mistreated syndrome which the gynecologist is called upon to relieve. Physicians in general cannot agree as to what constitutes the menopause. It therefore becomes necessary to limit the symptomatology which will be considered here. The menopause is defined as a "transitory period between the reproductive and functional castrate stage in a woman's life." It is often associated with disorders of uterine bleeding, of the vasomotor system, and of psychosomatic relationships. Under such definition and limitation, there are certain endocrine considerations worthy of comment. Each authority discussing this syndrome will have his own theory as to the etiology of the symptoms. It is apparent that the syndrome has something to do with the cessation of the ovarian function, but the relationship of these changes to the symptom

complex is still unknown. Despite the great confusion concerning etiology, it is still possible to obtain a fair amount of symptomatic improvement by endocrine administration.

Bleeding disorders of the menopause, while endocrine in origin, are *not* to be treated by endocrine therapy. While this statement may seem categorical, experience indicates that hormonal treatment in this age group is hazardous and unjustifiable. These patients should be treated by irradiation or by surgery.

The vasomotor changes associated with the menopause can be greatly improved by the use of estrogens. The varieties of therapeutic schedules advised are superficially somewhat confusing. They do, however, contain certain common factors. The patient should receive a relatively large amount of estrogen in the early portion of the treatment schedule and this should be decreased progressively over a period of six to twelve months; secondly, the estrogens should be given cyclically, somewhat simulating natural ovarian rhythm; and, lastly, estrogen therapy alone is seldom adequate; usually it is necessary to add one of the barbiturates for sedation. An amazingly large number of women will respond very satisfactorily to equal amounts of thyroid and phenobarbital.

The psychosomatic manifestations of the menopause are only slightly benefited by endocrine therapy. Estrogen probably has some value as a psychotherapeutic agent but it is doubtful if it has any role in the control of emotional factors in this age group. Good psychosomatic therapy and even psychiatric care is necessary occasionally. Here also a gratifying number of women are symptomatically benefited by the empirical use of thyroid and phenobarbital.

Summary

In summary it should be pointed out that there are certain rational but limited uses of hormonal agents in the treatment of endocrine disorders in obstetrics and gynecology.

1. Endocrine therapy is always replacement therapy and except in a few conditions must be continued to be effective.

2. Thyroid and estrogen are the most effective agents available.

3. Thyroid may replace a deficiency or may provide a nonspecific metabolic stimulation.

4. Estrogen is a feminizing hormone and can be used to replace any feminizing function of the ovary.

5. Endocrine syndromes seen in obstetrics and gynecology have been reviewed and the hormonal therapeutic opportunities described.

THE SEDIMENTATION RATE

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The blood is a suspension of corpuscles in plasma. The sedimentation test measures the stability of this suspension. In performing the test an anticoagulant is first mixed with the blood. One then observes the rate at which the erythrocytes settle in a perpendicular tube. This speed of settling is known as the sedimentation rate. The test is extremely simple and has a wide clinical application. Sometimes it yields more information than the leukocyte count. In many cases it provides valuable data concerning diagnosis, prognosis, and treatment.

History

Although it is usually considered a newer laboratory procedure, actually the sedimentation rate is older than the theory of the four humors on which the pathology of antiquity is based. Fahrenaeus⁷ in a most interesting historical review points out that the humoral theory of disease was based on the fact that the appearance of blood withdrawn from an ill person differs from that of a normal one. It was observed that a large quantity of blood withdrawn from a sick person separates into four layers: (1) an uppermost yellowish liquid (blood serum) which was known as cholera or yellow bile; (2) the blood clot proper, which consisted of a grayish-white layer (of fibrin) known as phlegma or mucus; (3) a bright red layer (of erythrocytes) known as sanguis or true blood; (4) a dark red, almost black, portion (erythrocytes deprived of oxygen) known as melancholia or black bile.

Theoretically, it was felt that disease might result from an increase in any of these four fluids, but in practice increase of the phlegma or fibrin layer was considered the predominant factor in the production of disease. This belief was simply explained by the observation that blood drawn from diseased persons was covered with a fibrinous layer—a fact which the Hellenic physicians attributed to increase of phlegma. This view was substantially supported by the fact that a similar fibrin coagulum was found post mortem in the blood and large vessels of persons dying of disease but was absent in cases of violent death.

The downfall of the four-humor theory did not diminish the importance of the fibrinous layer. For a long time it was felt that the blood was composed of two elements, red cells and blood serum. The fibrin collecting at the top of blood drawn from diseased persons continued to be interpreted as a substance entirely alien to the composition of normal blood. This buffy coat

was considered the common cause of all fever, perspiration, eruption on the skin, and other clinical symptoms. The whole theory of bloodletting in the treatment of disease was based on the conception of relieving the body of substance of the buffy coat. Paracelsus was one of the first to suggest that the presence of phlegma was the effect and not the cause of disease.

In the following three hundred years studies on the causation of phlegma and observations on the suspension stability of the blood were made. Heuson⁹ in 1772 observed that the inflammatory crust on sores was merely the coagulable lymph separated from the remainder of the blood. Hunter¹⁰ in 1786 observed that red corpuscles when out of the vessels would become clumped and attracted to each other. In 1836 Nasse¹¹ presented evidence that buffy coat as a rule owes its origin to an increased sinking velocity of the red corpuscles, and, furthermore, that this phenomenon must have something to do with the peculiar clustering tendency of the red corpuscles. He found the apparently paradoxical condition that the red corpuscles settle much more slowly in defibrinated blood than in whole blood.

Until the first half of the nineteenth century the buffy coat was still a subject of live medical interest. About this time, however, the study of the problem was discontinued and the gains already made were forgotten. It should be mentioned, however, that the French hematologists in the beginning of the twentieth century recognized that in severe inflammatory conditions there was an increased aggregation of the red cells in fresh blood specimens.

It was not until 1917 that interest in these vital hematologic questions was renewed. While seeking a test for early pregnancy, Fahraeus⁷ discovered the increased sedimenting velocity of red cells in this condition. He later demonstrated a correlation between the sedimentation rate and changes in the concentration of certain plasma constituents, especially fibrinogen or serum globulin. He also showed a correlation between these factors and the degree of erythrocyte aggregation. Since the publication of his work thousands of papers concerning the sinking speed of erythrocytes have been published. Most of the work was done in Germany during the 1920's. Very little has been added or changed since the original work of Fahraeus.

Nature of the Phenomenon

When an erythrocyte suspension is placed in a vertical sedimentation tube it is found that there are three phases in the fall of the erythrocytes. First, there is a period of rapid descent. This

coincides with the progressive increase in size of the erythrocyte aggregates. Following this first period of progressive acceleration there is a second phase of constant fall during which the erythrocyte aggregates sink at a constant, steady rate. This coincides with the development of the aggregates into their maximum size. As the aggregates settle, there is an upward displacement of the medium which acts as a retarding force. The greater the amount of plasma displaced the greater the retarding force, and as the aggregates settle on the floor of the glass producing a new effective bottom there is a progressive retardation, or third phase, in the speed of the settling process.

It might seem that erythrocytes suspended in plasma or serum settle because their density is greater than the density of the medium in which they are suspended and that the settling is resisted by the viscosity of the medium. Actually, erythrocytes suspended in plasma or serum always form aggregates or rouleaux varying in size from a few cells to particles visible macroscopically. Fahraeus⁷ found that the differences between the specific gravity of the red corpuscles and that of the plasma were without demonstrable effect on the sinking velocity of the red cells. Nor did the viscosity of the plasma have any direct bearing on it. He found that the factor which had the greatest effect on the sinking velocity was the radius of the particles. He felt that variations in size of the individual erythrocyte played no particular part, but rather the ability of the erythrocytes to form aggregates was the predominant factor in determining the sinking velocity. In general the sedimentation rate increases in proportion to the size of the aggregates and actually the viscosity of the medium plays a small role, if any. This is explained by the geometric law that the larger the volume of a particle the smaller is the relative surface area. Accordingly, the downward force, which is governed by the total mass of the particle, increases more rapidly than the retarding force, which is a function of the surface area exposed to the medium.

Fahraeus pointed out that the increased aggregation of the corpuscles is due to a change in their surface layer. This is caused by a change in the medium in which they are carried, namely, the plasma. His experiments showed that the addition of hydrophil colloids to plasma greatly increases aggregation and accelerates the rate of settling of the cells. Concentration of the plasma with the resultant relative increase in the colloids is followed by a marked increase in the sinking velocity whereas dilution of the blood with normal saline greatly retards it.

Next, he demonstrated that washed erythrocytes suspended in solutions of plasma of differing fibrinogen concentration show degrees of aggregation and sedimentation rates which vary over a wide range and which may be roughly proportional to the fibrinogen level of the medium. For defibrinated blood the erythrocyte aggregation is usually minimal and settling velocity is extremely slow. An exception exists in the occasional instances of elevated levels of the serum globulin. Here the sedimentation rate may be roughly proportional to the concentration of the serum globulin. And clinically it has been found that the degree of erythrocyte aggregation or rouleaux formation and the rate of sedimentation have been demonstrated to correlate roughly with the concentration of plasma fibrinogen and serum globulin.

Fahraeus⁷ further noted that rouleaux formation is greater in disease than in health, and the rouleaux are larger and more tightly packed in bloods in which the sedimentation rate is increased. He felt that this was due to the increased fibrinogen level in the plasma. But why this should increase in disease he offered no explanation. Heating blood serum above 48 C., which increases the globulin fraction at the expense of the albumin, is followed by increased aggregation and sedimentation. In pregnancy and in disease Fahraeus found that the fibrinogen and globulin increased while the albumin decreased.

Other factors probably play small part, if any. The plasma albumin and the albumin-globulin ratio are not correlated with the rate. Nor does the total plasma protein seem to be of significance. The plasma lipids apparently play no role. Changes in the blood sugar are not important. Aeration of the blood or loss of CO₂ produces no effect on the sedimentation rate. An excess of the bile salts may have some effect on the rate, for it is known that the suspension stability is increased when an excess of bile salts is present.

It can be stated that the most marked increases in the sedimentation rate are seen when there is a great increase in fibrinogen proteins together with a normal or increased globulin and a considerably decreased albumin content. In whole blood the influence of fibrinogen and globulin probably are additive.

Just why there is an increased fibrinogen content of the blood in disease has not been adequately explained. The most likely explanation has been suggested by Nicholson.³ He says that in disease the breakdown of tissue in the body

releases increased amounts of fibrinogen which, in turn, induces clumping of the cells leading to abnormal sedimentation rates.

Overwhelming evidence has accumulated indicating that increases and decreases in plasma fibrinogen and globulin are responsible for variations in the suspension stability of the erythrocytes. In spite of this, Wintrobe⁸ points out this evidence is chiefly indirect and that one must not assume too readily that it is these proteins which are the actual factors involved. One must also remember that the sedimentation test is not an accurate one as a specific test for any single blood constituent.

Methods for Determining Rate

There are many methods of measuring sedimentation rates. In comparing results the method used should be stated. All tests are modifications of two principal methods. In the first method the velocity of settling may be expressed in the number of millimeters the column of erythrocytes settles in a unit of time, usually sixty minutes. In the second method, the rate is the number of minutes required for the upper level of sedimenting corpuscles to fall a specified distance. The first method obviously is simpler and less time consuming and hence is the more widely used.

Several micromethods using capillary tubes have been devised, but it is generally conceded that when the internal diameter of the sedimenting tube is less than 2.5 mm. the results are not constant and accurate.

Physio-Chemical Factors Influencing the Sedimentation Rate

A. Technical Factors

1. *Methods of Timing*—There are three periods of fall, and in comparison the methods may not measure comparable portions of different sedimentation curves.

2. *Duplication Accuracy*—Ham and Curtis⁵ in a series of experiments found that rates will vary 2 per cent on duplicate samples of the same blood specimen.

3. *Height of Blood Columns*—In samples of the same blood specimen suspended in tubes of the same internal diameter the sedimentation rate will accelerate as the height of the blood column increases.

4. *Internal Diameter of the Sedimentation Tubes*—The rate is unaltered in tubes whose internal diameter is between 3 and 11 mm. Tubes whose internal diameter is less than 2 mm. cause slowing and irregularities in the settling of the erythrocyte column.

CHART 1

	Westergren	Cutler	Wintrobe	Linzenmeier	Rourke Ernstene
SEDIMENTATION Tube length	300 mm	70 mm	120 mm	65 mm	120 mm
Internal Diameter	2.5 mm	5 mm	25 mm	5 mm	4 mm
Height of Blood Column	200 mm	50 mm	100 mm	50 mm	100 mm
ANTICOAGULANT	3.8% sod. oxalate	3% sod. citrate	Dry oxalate	5% sod. citrate	Heparin & Dry oxalate K ₂ G ₂₀
METHOD OF TIMING	mm in 1 hr.	mm in 1 hr.	mm in 1 hr.	min. to settle 18 mm	mm in the fastest min.
NORMAL RANGE	1-3 mm men 4-7 mm women	2-8 mm men 2-10 mm women	0-9 mm men 0-15 mm women	200-600 min.	0.05-0.4 mm

5. *Anticoagulants*—Heparin in small amounts (15 per cent solution, 20 mg.) produces no significant alteration in the sedimentation rate; however, in amounts needed to prevent coagulation (65 mg. to 150 mg.) there is produced an acceleration of the rate proportional to the heparin concentration. Dry oxalate mixture (100 mg. to 300 mg.), and potassium oxalate, 20 per cent solution (200 mg. per 100 cc. of mixture), apparently produce no significant alteration in the rate. Sodium citrate solutions cause retardation of the sedimentation rate primarily because of dilution of the plasma. The retardation is in proportion to the amount of dilution.

6. *Effect of Standing*—There seems to be no change after standing for several hours. Standing longer than several hours produces retardation, and after twenty-four hours there is extreme retardation.

7. *Temperature*—Excessive cold slows the rate and heat accelerates it. This is of practical importance only if there is wide variation in room temperature. The ideal temperature seems to be 22 to 27 C.

8. *Position of Tube*—The tube must be in a vertical position; as little as three degrees from the vertical will cause a marked acceleration of the rate. This is because there is less retarding effect. As cells accumulate along the inclined plane the plasma is left free to stream along the under side of the glass above the cells.

B. Erythrocyte Factors

1. *Oligocythemia* accelerates sedimentation while polycythemia retards it. This has led to the view that the clinical significance of the sedimentation test may be altered in anemia and plethoric states. Thus, in a patient suffering from quiescent rheumatoid arthritis, the presence of coincident anemia may result in a misleadingly

high sedimentation rate. In a case of pulmonary tuberculosis treated by collapse therapy with consequent secondary polycythemia, the sedimentation may be retarded and thus fail to reflect the activity of the tuberculous process. These considerations have led to the development of the corrected sedimentation rate. This usually involves either the manipulation of the blood sample so as to adjust the packed cell volume to normal before setting up the test, or the use of correction charts in which the corrected rate is shown as a function of the observed rate and red cell count or the packed cell volume of the patient. Although the practice of correcting the sedimentation rate has been adopted by many, it has not gained general acceptance apparently because the correction is essentially a manipulation, and it is felt that the correction is not too accurate and may falsify the result by "over-correction."

2. *Decrease in Erythrocyte Size* does seem to produce a significant decrease in the settling velocity. This decrease seems to correlate with the mean corpuscular volume and color index but not with the mean hemoglobin concentration. No correction method is adequate for this phenomenon.

C. Other Factors

1. Sodium salicylate in vitro slows the sedimentation rate by a mechanism not known but probably related to changes in the stability of the colloidal state of the plasma. This effect takes place immediately following the addition of sodium salicylate in concentrations considerably larger than those reached in vivo (90 mg. per cent). When the contact between sodium salicylate and plasma is prolonged for twenty hours at room temperature salicylate levels as small as those seen in patients under salicylate therapy (25-30 mg. per cent) cause marked slowing of the sedimen-

tation rate. The effect is inherent in the salicylate radical.

2. Adolescents occasionally seem to have an increased sedimentation rate normally. This is important in regard to rheumatic fever.

3. The sedimentation rate returns to normal slowly after an elevation. Therefore, elevated sedimentation rates are of no value in the cases in which patients have had an acute infection in the preceding weeks or months.

4. The sedimentation rate is increased normally after the third month of pregnancy.

5. The average rate in women is higher than in men. This is thought to be explained by the difference in the number of red corpuscles in the two sexes.

6. The changes due to menstruation are small and insignificant.

Clinical Significance of Variations in the Sedimentation Rate

It must be remembered that the sedimentation test is a nonspecific index which may be compared roughly with the temperature, pulse rate and leukocyte count in that it gives information of a general character. Nevertheless, the sedimentation rate is usually, but not invariably, accelerated in conditions which produce tissue destruction, in infections, and in toxemias which cause systemic disturbances. The rate varies directly with the extent of the underlying lesion and the activity of the pathologic process.

It may be accepted as a working principle that a raised sedimentation rate is so unusual in health, apart from pregnancy, that it justifies a strong suspicion of an active pathologic state. On the other hand, while a normal rate renders the existence of active disease unlikely, it must not be accepted as conclusive evidence that no disease is present. Stated differently, an increased sedimentation rate is a more significant conclusive finding than a normal one.

Infections

An increase in the sedimentation rate occurs in all acute general infections and is proportional to the severity of the infection. The rate may be normal during the first day or two of an acute fever and may reach its maximum after the fever has started to subside. The sedimentation rate is of little value in the diagnosis of acute infections, but it is of value in pointing to the development of complications, since the rate remains elevated or, as usually happens, rises further when complications supervene. In localized inflammatory reactions, both acute and chronic, the rate

depends upon the extent and the nature of the infection.

In general, chronic inflammatory processes do not produce an accelerated sedimentation rate. So-called focal infections influence the rate in proportion to the underlying pathologic process, whereas chronic localized infections may have no influence. Chronic inflammatory conditions characterized by exudative reactions (pelvic inflammatory conditions, tuberculosis, chronic bronchitis) may cause significant increase in the velocity of red cell sedimentation.

Generally speaking, in catarrhal inflammation (acute catarrhal appendicitis, rhinitis, bronchitis) the sedimentation rate is proportional to the extent and severity of the inflammation; however, in most cases it is normal. It should be mentioned that occasionally during the course of the common cold the sedimentation rate is increased.

Suppuration is apt to result in a pronounced rise in sedimentation rate. Increases occur in otitis media, acute sinusitis, suppurative pulmonary conditions, empyema of the gall bladder, salpingitis, suppurative appendicitis, and other diseases of this nature. Inflammation of serous cavities, as in pleurisy, pericarditis, and peritonitis, is practically always accompanied by rapid sedimentation.

The sedimentation rate is usually normal in ulcerative conditions if superficial and uncomplicated, as in peptic ulcer, but it may be accelerated if the ulcer is associated with severe inflammatory changes or with malignant changes.

In chronic pulmonary tuberculosis the rate is increased and may be used as an index of activity, providing an aid in the treatment and prognosis of the disease. It must also be remembered that occasionally active tuberculosis occurs in the presence of a normal sedimentation rate. In extrapulmonary tuberculosis, sedimentation varies with the extent and nature of the infectious process.

Hilar tuberculosis, tuberculous adenitis, and even pleurisy and tuberculous peritonitis may be associated with normal rates. An increase in rate is found in tuberculous laryngitis, bone tuberculosis, tuberculous meningitis, abscesses and fistulas.

Parasitic infections as well as bacterial infections cause an increase in the sedimentation velocity. The rate is increased in malaria. During the fever and chill the rate may be retarded. It is increased during the apyrexial stage. The sedimentation rate may be used as an aid to distinguish clinical malaria from short term fevers of uncertain etiology. In malaria the acceleration is maintained for at least two or three weeks. In

short term fevers the rate is usually normal within two or three weeks.

Neoplasms exert a variable effect on the sedimentation rate according to their nature (simple or malignant), their location, and their extent. In general, sedimentation is not significantly affected by simple tumors or cysts, and is frequently unaffected by localized malignant tumors not associated with much tissue destruction such as early epithelioma and early scirrhous carcinoma; but it is usually definitely abnormal in rapidly proliferating and ulcerative malignant conditions, even in early stages. In the later stages, especially if accompanied by skeletal metastases, a grossly abnormal rate is invariably found. Likewise, a simple tumor or cyst that has undergone degeneration, infection, or rupture usually gives rise to an accelerated rate.

In Hodgkin's disease and other forms of reticulosis, the sedimentation rate may serve as a guide to x-ray therapy, since it is raised during active proliferation but tends to return to normal during phases of inactivity. A rise in the sedimentation rate therefore serves as an indication for further treatment.

Cardio-Vascular Disease

The sedimentation test is a valuable aid in the management of two common causes of cardiac damage, rheumatic fever and coronary thrombosis. In both of these conditions the sedimentation rate may be regarded as an index of the activity of the pathologic process, for in cardiac disorders not accompanied by active disease the rate is seldom accelerated. In rheumatic carditis the rate is rapid but returns to normal with subsidence of activity. Following coronary thrombosis it usually attains a high maximum rate during the second or third week, and as the infarct heals the rate returns to normal. In both coronary thrombosis and rheumatic carditis the rate may persist at a constant level slightly above normal. Hence, weekly readings provide valuable information in both of these conditions in that they reflect the state of the lesion more closely than do the pulse, temperature or leukocyte count.

The sedimentation rate is also increased in cardiovascular syphilis returning to normal following successful treatment.

The sedimentation rate is increased in bacterial endocarditis, but the multiple factors involved in this condition make its interpretation difficult in diagnosis. It may, however, prove of value in assessing the results of therapy.

Congestive failure retards the sedimentation rate. This must be remembered in evaluating the rate in active heart disease.

In hypertensive heart disease the sedimentation rate is variable, being usually normal in the mild cases, sometimes moderately elevated in the more severe cases, and frequently rapid in malignant hypertension. It seems probable that renal impairment may be a determining factor in accelerating sedimentation.

Angina of effort usually has no marked effect on sedimentation, although in severe cases moderate acceleration has been recorded. In active valvular disease the rate of sedimentation is occasionally accelerated.

Arthritis and Allied Conditions

Sedimentation is increased in rheumatoid arthritis and ankylosing spondylitis. The rate appears to depend upon the number and size of joints affected and on the intensity of the reaction taking place in them. In fibrositis and osteoarthritis the rate is normal or nearly so. In gout the rate may vary.

Sciatica is not associated with a raised sedimentation rate if it is due to gluteal fibrositis, a true neuritis of the nerve, or pressure of an intervertebral disc. Severe sciatica with a rapid sedimentation rate at once suggests some serious underlying cause, such as pelvic neoplasm. The rate is increased in gonorrheal and tuberculous arthritis, acute osteomyelitis and in Pott's disease.

Miscellaneous Conditions

In disorders of the liver the test is of little practical value since the results are apt to be discordant. This is understandable in view of the widely varying changes that may be produced in the constitution of the plasma. For example, increased formation of globulin tends to accelerate sedimentation, whereas decreased production of fibrinogen or retention of bile salts may retard it.

Likewise, in diabetes mellitus and thyrotoxicosis the effects are too variable for the test to be of much clinical assistance. In other endocrine disorders normal rates are usually found. Acute and chronic nephritis accelerates the sedimentation rate, and this is said to provide an index of disease activity.

In blood diseases sedimentation is frequently abnormal. The effect of anemia and polycythemia per se has already been discussed, but in diseases such as leukemia and pernicious anemia the effect is greater than can be attributed to the degree of anemia present. Acute poisoning with substances such as lead, arsenic and alcohol has been shown to cause acceleration of the sedimentation rate.

Psychiatric and neurologic disturbances of func-

tional origin do not affect the sedimentation rate, but in neurologic conditions associated with tissue destruction, such as malignant tumors and syphilis, the rate is increased.

In the noninfective allergic disorders, such as asthma and hay fever, normal sedimentation rates are found. When inflammatory complications occur, sedimentation velocity frequently is increased.

In the digestive tract benign ulcers and tumors and simple diarrhea are associated with normal rates, but in enteritis, colitis, malignant tumors, ulcerative colitis, tuberculous ulceration and other inflammatory conditions of the bowel associated with such tissue destruction, the rate is increased. The rate is normal in most diseases of the skin; however, it has been found to be elevated in tuberculosis of the skin, in erythema nodosum, and dermatitis herpetiformis. The test may be of some help in differentiating these from other types of similar dermatitis.

In the genito-urinary system acute and chronic urethritis have normal rates, but the rate increases in the more serious infections such as acute prostatitis, epididymitis, pyelitis or cystitis. Vesical and renal calculi, prostatic hypertrophy, hydro-nephrosis and benign tumors, when not complicated by infection, cause no increase in the sedimentation. Rapid rates are found in association with hypernephroma and prostatic carcinoma.

The sedimentation test is found to be accelerated in all types of leprosy. Single tests are of no practical value in leprosy, but repeated tests at six month intervals may indicate the trend of the disease and are of some prognostic significance.

There is evidence which indicates that infected teeth with increased sedimentation rates have an effect on the general health of the body and that infected teeth with normal rates have no deleterious effect on the body.

The sedimentation rate is of distinct value in the diagnosis and management of patients with primary atypical pneumonia, differentiating them from the commoner forms of respiratory infections. The rate is increased in atypical pneumonia even in the absence of x-ray findings, whereas in the simple respiratory infections the rate is normal or only slightly elevated.

The sedimentation test has been used as a guide to progress and treatment of chronic infectious diseases, especially tuberculosis and rheumatic fever, arthritis and gonorrheal infections. Since it frequently is the last nonspecific laboratory test to return to normal in these infections, it has been a "sensitive" index of "disease activity."

A normal sedimentation rate in the presence of severe infection may be due to inadequate liver function and failure of fibrinogen to respond. Thus, it would be of some prognostic value in a circumstance such as this.

The sedimentation rate is a simple test which can be used routinely as a diagnostic procedure. Its greatest value as a routine procedure is that it may call attention to obscure or occult disease before such can be recognized by the usual clinical and laboratory methods. Further studies are indicated in those cases in which a high sedimentation rate is found and in which no specific disease is evident. These patients should be followed until the rate has returned to normal or the cause of the elevation of the rate has become apparent.

Cutler²⁴ points out that in a series of 1,000 patients at the Henry Phipps Institute in Philadelphia, 328 were considered healthy or suffering from only trivial ailments. In 177 of these, however, the sedimentation rate was greater than normal. Re-examination revealed abnormalities in all but eight of these patients of sufficient import to account for the increased rate. These findings have been borne out in other clinics where the sedimentation test was done as a routine procedure on their diagnostic services.

Conclusion

The sedimentation rate is a simple, easily performed, nonspecific laboratory procedure affording valuable information when used and interpreted intelligently. The sedimentation rate is increased in any condition which causes significant destruction of tissue. Thus, most acute and chronic infections, malignant lesions, acute intoxications, and certain endocrine disturbances will be associated with an abnormal rate. The sedimentation rate has its greatest value in the following two conditions: first, it is a means whereby the activity of various diseases may be followed, such as rheumatoid arthritis, coronary thrombosis, rheumatic fever and tuberculosis; second, when done routinely it is a means of directing one's attention to obscure diseases not recognized on initial examination.

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CONTACT DERMATITIS DUE TO STREPTOMYCIN

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Streptomycin has been restricted, until recently, to parenteral use in certain severe infectious diseases. Because of this, as well as its relatively high cost, it has not been widely used topically. However, its ability to produce epidermal sensitization has long been anticipated, and cases of contact dermatitis due to its use have occurred in people who contact the drug in its preparation or administration.¹ Fisher, Fishburn, and Wallace² discussed the problem briefly.

Since the latter part of November, 1947, five nurses of the State Sanatorium, Oakdale, Iowa, have developed contact dermatitis involving the hands, arms and eyelids. Patch tests with streptomycin have been positive in all five cases. Identical tests on four individuals as controls were negative. Four of the five proven cases occurred in nurses who prepared the antibiotic for injection.

Streptomycin has been used in the treatment of tuberculosis at the State Sanatorium since February, 1947. Beginning Nov. 15, 1947, an increase in the amount of drug per vial necessitated

a corresponding increase in diluent. In order to facilitate the dilution, a second hypodermic needle was introduced through the rubber stopper in order to allow the escape of air. When the diluent was injected, especially if done rapidly, a small amount of the streptomycin solution bubbled out of the second needle and was deposited on the outside of the needle and on the vial itself. This resulted in direct contact of the streptomycin solution with the nurses' hands. Seven nurses have prepared the solution in this manner, and four of the seven constitute the first four reported cases.

Report of Cases

Case 1—M.C., a 27 year old white nurse, developed a pinpoint papular eruption on the web between the fourth and fifth fingers of the left hand in the latter part of November, 1947. In the next two months similar erythematous patches



Fig. 1. Contact dermatitis of the fingers due to streptomycin (case 1).

occurred on the sides of the third finger, on the web between the third and fourth fingers, and on the dorsal surface of the proximal phalanx of the fourth finger (fig. 1). The involved areas persisted with irregular episodes of burning and itching.

A patch test utilizing a 2 cm. square of sterile gauze, moistened with a few drops of streptomycin solution diluted 1:4, revealed erythema and edema and was studded with numerous pinpoint vesicles (fig. 2). The reaction was interpreted as 4 plus positive.

The technic in patch testing was identical in all cases. Tests were applied to the volar surface of the right forearm, except in cases 2 and 5, and all were read in forty-eight hours.

Case 2—M.P., a 35 year old white nurse, first developed a vesicular dermatitis on the dorsal surface of the left hand about Dec. 1, 1947. After about one month, the right hand became similarly involved (fig. 3). About Jan. 18, 1948, she wore a short-sleeved uniform for the first

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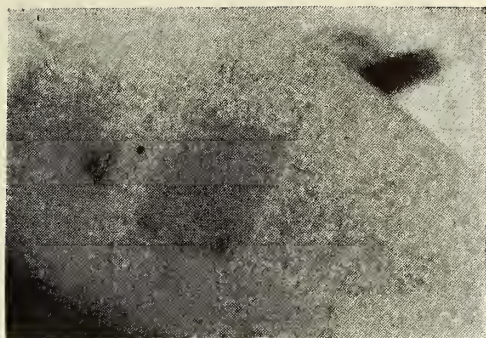


Fig. 2. Positive patch test to streptomycin solution, diluted 1:4, 48 hours after application (case 1).

time, and the following day noticed new areas of dermatitis on the arms and forearms and particularly on the antecubital spaces.

A patch test to streptomycin applied over the left scapular area, was 3-4 plus positive.

Case 3—H.P., a 26 year old white nurse, first noticed a dermatitis involving the dorsal surfaces of the proximal phalanges, webs, and distal portion of the dorsum of the left hand about the middle of January, 1948.

A patch test to streptomycin produced erythema and edema, and was interpreted as 2 plus positive.

Case 4—E.C., a 38 year old white nurse, first noticed edema and itching of the lids of the left eye about three to four days after she began to prepare streptomycin solution in the latter part of December, 1947. Prior to this time she had administered injections and cleansed syringes almost daily for eight months. Two weeks after onset, the lids of the right eye became similarly involved. Benadryl and ice-packs were used for temporary relief from the itching and edema. Examination on Feb. 4, 1948, revealed the lids of both eyes to be red, scaling, edematous, thickened and wrinkled (fig. 4).

A patch test to streptomycin was 3 plus positive. This nurse reported approximately 50 per



Fig. 3. Contact dermatitis of the fingers due to streptomycin (case 2).

cent improvement one week after she stopped mixing streptomycin and wore rubber gloves when handling the syringes.

Case 5—O.I., a 44 year old white nurse, about the middle of January, 1948, first noticed an itching, vesicular, erythematous, raised eruption on the flexor surfaces of the left arm and forearm, both antecubital spaces, less so on the right, and on the left lower eyelid. Within a few days the left upper lid became involved, but the lids of the right eye were spared. Pyribenzamine afforded temporary relief. This nurse habitually wears short-sleeved uniforms. She had given injections of streptomycin almost daily since February, 1947.

A patch test with streptomycin on the medial surface of the right arm produced a 4 plus positive reaction with marked redness, edema, and vesiculation, present in 48 hours and persisting for 120 hours.



Fig. 4. Contact dermatitis of the eyelids due to streptomycin (case 4).

Comment

In the eight and one-half months prior to Nov. 15, 1947, approximately 40 nurses were engaged in the preparation and administration of streptomycin and the cleansing of syringes used for injection, without the recognized occurrence of dermatitis due to the antibiotic. Following the change in the method of preparation necessitated by the increased amount of the product in each vial, 4 nurses (cases 1, 2, 3 and 4) out of 7 who engaged in its preparation developed a contact dermatitis to streptomycin as indicated by a positive patch test in each case. Even more striking is the fact that of the 7 nurses involved, the great majority of preparation was done by 4 of them, of whom 3 (cases 1, 2 and 3) developed the dermatitis. Furthermore, the left hand, in which the vial is held, was solely affected in 2 (cases 1 and 3) and initially affected in the third (case 2).

Although this is a small series, the conclusions appear significant when compared with the single case (case 5) which occurred among the more than 30 nurses of the institution who were not exposed in the preparation of the solutions, but who handled the syringes in performing the injections and in the subsequent cleansing. Circumstantially, it appears that the change in method of preparation, involving use of a second needle with inadvertent overflow of the solution, was at least partly responsible by means of increased exposure, for sensitization of these nurses. It would, therefore, seem that the potency of streptomycin as a sensitizer is proportionate to the degree of exposure.

Of added significance is the possibility of contact sensitization preventing future utilization of the antibiotic internally. This is a well known hazard in the use of the sulfonamides and penicillin which have the property of producing, following internal administration, both a generalized dermatitis and a localized dermatitis at the site of previous topical contact sensitization. Streptomycin is well known to produce various types of drug eruptions. Since streptomycin is capable of producing sensitization both by topical and internal administration, it is likely that the above type of combined reaction may occur with this drug as well.

Many of the nurses in tuberculosis sanatoria are former patients with the disease in the arrested stage. In the event of reactivation of their pulmonary tuberculosis, treatment with streptomycin might be indicated. Previous epidermal sensitization might result in the rapid establishment of a severe localized or generalized dermatitis contra-indicating further use of the antibiotic. This probability renders them extremely cooperative in attempts to prevent undue exposure to the drug. Such efforts, obviously, consist in the use of rubber gloves and suitable technics of preparation and administration.

Summary

1. Five cases of contact dermatitis due to streptomycin, occurring in nurses, are reported.
2. The relationship of degree of exposure to acquisition of sensitivity is demonstrated; 4 of the 5 reported cases occurred among the 7 nurses who had maximum exposure.
3. The probability of occurrence of combined internal and external sensitization, and its implications, are discussed.

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SPECIAL ARTICLE

SOCIO-MEDICAL SIFTINGS FROM SWITZERLAND

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Since the early years of the reformation this little republic of Switzerland of even now less than five million population has been recognized as the most favorable listening post of the world for students of the social, political and religious sciences. Situated as it is in the massive Alpine highlands at the crossroads of the nations of Europe, it has been for centuries a haven of refuge for exiles, intellectuals, reformers, deposed princes, kings and emperors and a source of inspiration to scientists and artists.

It was here in the deep defiles of these mountains that the Roman legions built their fortresses to guard the northern boundaries of their fatherland against the German barbarians before they pressed on to conquer Gaul and Britain. It was at the headwaters of the Rhine, Rhone and Danube that the eastern sweep of the empire of Charlemagne was halted, and it was here that the Christian monasteries and cloisters brought to the Helvetians some of the surviving traits of the ancient Roman civilization.

Here, too, Rousseau, Calvin, Knox and Zwingli laid the foundations of religious and political liberty, and here the mother church purified its rites and sanctified its purposes. To its cities, lakes and mountains came Voltaire, Madam de Staël, Gibbon and Goethe; Byron, Shelly and the Brownings; Lenin and Trotsky; Virchow and Röntgen.

During the late war a number of liberal scholars and professors, driven from their home lands by political persecution, have found teaching and research positions here in various institutions of learning. Students from every country flock to Swiss universities to study history, literature, languages and science.

In Geneva within a period of ten days one may hear public discussions of such diverse problems as the application of Sartre's new philosophy of existentialism to art, literature and the drama; a grandniece of Harriet Beecher Stowe of Boston explain to a Swiss audience the mystic oriental Baha cult for peace; a discussion by a professor and illustrative readings by his twelve year old son of modern Czechoslovakian literature; a two hour discussion of Marx's "Communitistic Mani-

festos" by a brilliant young intellectual from the Paris Sorbonne; witness a demonstration of the modern methods of physical human measurements by Eugene Pittard, the distinguished French anthropologist; hear a Wagner opera in the French language; and attend a seminar in the Pathological Institute and see a very skillfully executed subtotal resection of the stomach by the chief surgeon of the Geneva Canton Hospital. One may hear a beautifully intoned high mass in the Russian language in the gild domed mosque of the Greek Orthodox Church; visit the headquarters of the International Red Cross; wander at leisure through the UNESCO educational exhibits in the Woodrow Wilson Mansion; or sit in at some of the important international conferences always in session in the white stone buildings of the League of Nations.

Such opportunities as these are being afforded to some four hundred American students studying in the University of Geneva and in the International Language School, many of them under the GI Bill of Rights. Rarely has such large opportunity on so broad a scale been offered to a generation to spread good will and understanding among the citizens of the nations of the world. A pity, indeed, will it be if the fruits of these better understandings are to be blighted by the noisily threats of war.

One disappointing experience international visitors in Geneva may unfortunately have. They are not permitted to visit the gardens and buildings of the League of Nations. Informed people know that almost daily within these walls conferences, discussions and negotiations are going on, the decisions of which may seriously influence the future policy of his government; and we realize, of course, there should be no interruptions in the procedure of these meetings. It is disappointing to our American army personnel, coming to Switzerland for a brief visit after being for months cut off from sources of information from the outside world, to be turned back at the gate of the grounds of the League of Nations. Would it not be an inspiration to every citizen of the world, and especially to the soldiers who so recently have had a part in this world conflict, to be able to walk through the corridors and step into the great hall of the Palace of Nations, originally dedicated to the cause of international peace!

The medical profession of the German speaking cantons of Switzerland has undoubtedly sustained a considerable loss in the utter collapse of the culture of the old German and Austrian empires. Formerly it was the ambition of Swiss students and scientists to spend at least some time in the great universities of their German speaking

neighbors; now the situation is reversed. No doubt when a final peace is written, many of their German colleagues will be visiting Switzerland where the light of science and the torch of liberty have been burning while their fatherlands were desolated by war.

A few distinguished scholars from these unfortunate lands who were able to escape the Hitler terror are already teaching here. A notable example is the well known physiologist, Abderhalden, who was a member of the Berlin faculty before World War I. He was allowed to continue his duties as chief of the Physiological Institute at Halle during the last war, although constantly under the surveillance of the Nazi gestapo until General Patton's army occupied the city. The equipment and chemicals of his institute were carried away by the Americans who vacated the city to the Russians at the time of the German surrender.

Through him and other sources I learned that the Berlin surgeon, Bier, notable for the introduction of spinal anesthesia and the passive hyperemia treatment of local infections a generation ago, is still living at the age of 84 on his estate just out of Berlin. I learned also that the pioneer surgeon, Sauerbruch, is still connected with the surgical clinic in Berlin; that the anatomist, Hans Virchow, is dead; and that the renowned neurologist, Cassierer, has long since disappeared from Berlin with other Jewish members of his profession.

Twenty medical schools and their faculties have been reorganized in Germany, seven of which are in the American zone and five in the Russian zone. The University of Heidelberg was not badly bombed and its faculty is said to be the strongest in the Reich. The medical schools of Berlin, Munich and Vienna, although greatly damaged, are carrying on with considerable difficulty.

"The Wiener Medicinische Wochenschrift" seems to be the only German medical journal reaching Switzerland. The Swiss Academy of Medicine *Bulletin*, published in Basel, in its current volume contains contributions by Spanish, Belgian, Finnish, Swedish and Swiss clinicians and research workers. Scientific journals are also arriving here from Italy, France, Holland and Scandinavia. The Swedes are making notable contributions, especially in the fields of the basic sciences of medicine. Their articles often appear in the German and English languages.

With the almost utter ruin of the medical centers in Munich, Vienna, and Berlin, and the sorry plight of education which will prevail for a long time throughout Germany, it seems highly prob-

able that Zurich in Switzerland and Stockholm in Sweden bid fair to remain important medical centers for Europe for many years to come.

The history of the next world war, if such a calamity is again to overtake Europe, may well be written in two words—total desolation.

COLLEGE OF MEDICINE
State University of Iowa
CLINICOPATHOLOGIC
CONFERENCE
April 8, 1948

Summary of Clinical Record

This 47 year old man came to the University Hospitals on Dec. 16, 1947, with the following story: On Oct. 10, 1947, he noted mild cramping pain in the medial aspect of the right calf. On the morning of the following day the pain became severe and he was unable to walk without pain. He consulted his physician who told him that he had phlebitis. In the course of a few days the pain and tenderness gradually diminished, but in eight days it was followed by a similar episode in the opposite lower extremity. Some weeks later he developed a similar area of pain and tenderness in one of his upper extremities. Here he noted some redness of the skin and some localized swelling. Again local heat and rest were prescribed. A daily log of his oral temperature indicated an afternoon range from 99 F. to 100 F. Occasional night sweats were noted. This migratory process continued and when he entered the hospital he had had involvement of all four extremities.

During the past three years he had had some intermittent epigastric, dull pain just beneath the sternum. The pain was never severe and was frequently relieved by taking "Tums" or a little milk or other food. He had denoted no seasonal occurrence of the pain nor any particular relationship to emotional stress, except that it first came on at the time he was under considerable pressure in relation to his work. He had had no vomiting and very seldom nausea. He had passed no bloody or tarry stools and had had no weight loss prior to the onset of the acute phlebitis. From these symptoms his physician had made a tentative diagnosis of peptic ulcer and had prescribed a diet. The past health, aside from the epigastric difficulty mentioned, had generally been very good. He denied chronic cough, hemoptysis or pleurisy. There had been no hema-

turia. There had been no symptoms of migratory muscle pain. His average recent weight had been 194 pounds.

On physical examination, the patient appeared to be an ambulatory, well-developed and well-nourished large man with the appearance of definite, chronic illness. The oral temperature was 100.6 F. Over the medial aspect of the right arm there was an area of redness and slight swelling and tenderness. A palpable thrombosed superficial vein was present. Smaller similar lesions were present over the medial aspect of the right thigh, the medial aspect of the right leg, dorsum of the foot on the same side, and over the medial aspect of the left arm and forearm in the antecubital region.

Examination of the head was negative. The lungs were clear. No enlargement of the heart was demonstrated. The pulse rate was 78 per minute, the brachial blood pressure was 130/80, taken in the sitting position. The heart sounds were of good quality and no murmurs were heard. The abdomen was soft and flat; no masses were palpable and there were no herniae. There was no palpable lymphadenopathy. The rectum and genitalia were negative. The neurologic examination revealed no significant findings.

Several examinations of the urine were all normal. The hemoglobin was 12 gm. per 100 ml., the erythrocyte count 4,035,000,000 and the leukocyte count 11,300 per cu. mm. The blood Wassermann reaction was negative. A single chest film was interpreted as normal. The agglutination reactions for brucellosis, typhoid fever and tularemia were negative. The results of special blood studies were as follows: erythrocyte sedimentation rate (Westergren), 70 mm. in 60 min.; hematocrit, 33 per cent; bleeding time, 2 min.; coagulation time, 5 min.; prothrombin, 70 per cent of normal; clot retractility, complete; erythrocyte fragility, hemolysis began at .46 per cent and was complete at .32 per cent; platelets, 214,000 per cu. mm. and reticulocytes, 1.2 per cent. A differential leukocyte count revealed 4 band polymorphs, 72 segmented polymorphs, 5 eosinophils, 2 basophils, 15 lymphocytes and 12 monocytes in 110 cells counted. Cold agglutinins were not present.

Repeated examination was made of night specimens of urine, but no hemoglobin was demonstrated in any of them. Intravenous pyelograms were interpreted as normal. A gastro-intestinal x-ray study was interpreted as showing normal stomach and duodenal bulb. On December 19 a biopsy was obtained of the left gastrocnemius muscle which revealed no lesions in the muscle,

subcutaneous adipose tissue, and associated vessels. During the first few days he was in the hospital the phlebitis did not subside so dicumarol was given. On December 21 an initial oral dose of 300 mg. was given. Bone marrow from a sternal puncture on that day was reported as normal. On December 23 there first appeared acute swelling, pain, tenderness, and edema of the entire left lower extremity. It obviously involved the deep veins. On the following day the prothrombin level was 40.1 per cent of normal and 100 mg. of dicumarol was given. The edema and swelling of the left lower extremity persisted. Blood cultures yielded no organisms.

On December 26 the prothrombin level was 15 per cent of normal. In spite of this, swelling of the thigh on the affected side became more marked and extended to include the inguinal region on that side. There was considerable associated discomfort and on that day 350 mg. of procaine was given intravenously with 350 mg. of cevitamic acid in 350 cc. of distilled water (0.1 per cent solution). The patient received striking temporary relief in the pain and was able to move about comfortably in bed. On the following day this treatment was repeated, but the results were not as striking. During that night the patient had a period of acute apprehension. It was noted that he was not eating well and he complained of nausea. On physical examination there were no abnormal abdominal findings. On December 28 he was given another intravenous procaine injection similar to the others, with complete temporary relief of pain. By December 29 it was noted that there was gradual decrease in the size of the involved left lower extremity with less edema, induration, and tenderness. On December 31 he showed again an increase of tenderness and swelling in the lower extremity and procaine intravenously was again given. There was some relief of pain. Meanwhile the daily administration of dicumarol had been continued.

Prothrombin levels were as follows: on the twenty-seventh, 18.2 per cent; on the twenty-ninth, 15.4 per cent; on the thirtieth, 17.9 per cent; on the thirty-first, 25 per cent of normal. Dicumarol therapy was discontinued following the January 3 dose, at which time the prothrombin level was 25.1 per cent of normal. On January 5 it was 21.3 per cent of normal and on January 6 it was 39.8 per cent, three days after the last dose had been given. On the night of the thirty-first of December he developed severe delirium with great apprehension. Some degree of delirium was present on each successive night, and

occasional periods of disorientation in the daytime were observed. For this reason all barbiturates were also discontinued on the third. The patient became increasingly concerned about the progress of his disease. The appetite was very poor at this time. On several occasions he vomited a small amount of food. There appeared to be slight icterus, and a divergent strabismus was noted. Shortly after the evening meal the patient became very restless and the nurse in attendance reported that he suddenly became very short of breath, struggled to sit erect, and fell back on the bed. He was pronounced dead shortly afterwards.

Clinical Diagnosis

Probable retroperitoneal neoplasm, carcinoma of the pancreas.

Necropsy Findings

There was an adenocarcinoma measuring $3 \times 3 \times 3$ cm. in the tail of the pancreas. It was infiltrating the normal pancreas at its margin and was not encapsulated. The inferior pole of the spleen was adherent to the mass, and carcinoma had infiltrated into the spleen at this point. A

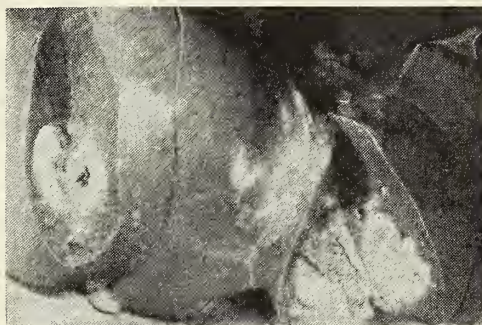


Fig. 1. Metastatic neoplasm in liver.

mass of neoplastic tissue $6 \times 4 \times 3$ cm. occupied the lower part of the splenic substance. The center of this mass was necrotic. The neoplasm was also attached to the retroperitoneal fat behind the pancreas. Metastatic nodules, measuring up to 7 cm. in diameter, were found in the liver, most of them being in the right lobe with a few in the left lobe (fig. 1).

The inferior vena cava and its tributary veins were filled with a massive laminated thrombus (fig. 2). This extended to the renal veins but did not involve them. The thrombus was rather firmly attached to the caval wall. The deep and superficial veins of both lower extremities were similarly involved. There was evidence of both acute and chronic phlebitis in the walls of these veins. Cells which appeared to be neoplastic me-

tastases were seen in the perivascular lymphatics at one point. One large mass of thrombus material was found in the right ventricle and extended outward into the right pulmonary artery as far as the branch to the lower lobe of the right lung. Most of the primary and secondary branches of this artery contained thrombi.

The heart was dilated and somewhat heavier than normal. There was passive congestion of the viscera.

Necropsy Diagnosis

Adenocarcinoma, tail of pancreas, with extension to spleen and retroperitoneal fat and metastasis to liver.

Thrombophlebitis of the inferior vena cava and its major branches.

Pulmonary embolus.

Chronic passive congestion of thoracic and abdominal viscera.

Myocardial hypertrophy.

Clinical Discussion

Dr. R. T. Tidrick (Surgery): Aside from the finding of subsiding acute phlebitis of superficial veins in several places, there was nothing very tangible upon which a diagnosis could be made. Extensive diagnostic procedures failed to give a definite diagnosis. We included in our differential diagnosis intra-abdominal carcinoma, Buerger's disease, periarteritis nodosa, ordinary idiopathic superficial phlebitis, and paroxysmal nocturnal hemoglobinuria.

Dr. C. L. Gillies (Radiology): The diagnosis of carcinoma of the pancreas radiographically is very unsatisfactory. Usually the lesion is present without producing any x-ray findings. The x-ray findings at times may be positive because the mass of the tumor may displace the stomach or the duodenum. If the lesion is located in the region of the head of the pancreas, the duodenal loop as it passes around the head of the pancreas may be distended or may be obstructed or invaded; and in this way, we may be able to make the diagnosis. In this particular case the lesion was located in the tail of the pancreas, and there was no displacement or invasion of the stomach. Unfortunately, this is too frequently the case with lesions of the pancreas.

Dr. L. E. January (Internal Medicine): It is rather difficult to understand why thrombophlebitis occurs secondary to certain neoplasms. It so happens that carcinoma of the pancreas is more commonly associated with phlebitis than all other of the neoplasms. Very frequently these patients, at the time the thrombophlebitis begins, are not cachectic; they have not been in bed for

a prolonged period of time, and the element of venous stasis does not seem to be operative. Usually there is no history of trauma and very often no abnormalities in the circulating blood are detectable. Usually there is insufficient extension of carcinoma within veins to explain it. I think, at present, we must admit that we do not know the cause.

Two other diagnoses which were considered should be further discussed. It is said that about 40 per cent of all cases of thromboangiitis obliterans have a migratory superficial thrombophlebitis. This disorder is usually easily recognized because of the positive evidence of occlusive arterial disease. But thrombophlebitis may be the initial manifestation, and it may recur several times or be present over a period of years without any evidence of occlusive arterial disease. The diagnosis is then extremely difficult. Sometimes biopsy will help.

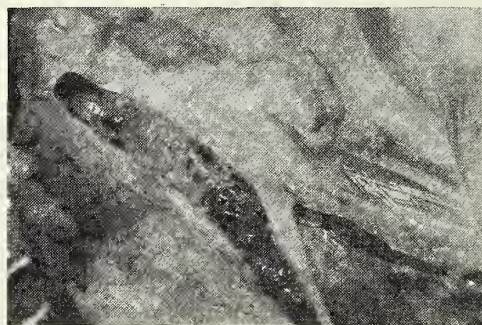


Fig. 2. Thrombus in inferior vena cava.

Primary thrombophlebitis or idiopathic thrombophlebitis should be thought of in such cases as this, particularly at the stage in which he presented himself for examination. It has been known for about fifty years that these cases do exist, that they generally occur in men between the ages of 20 and 70 years, and that they do affect large veins such as were affected in this patient. Generally the legs only are involved. The cause of the disease has never been discovered. The usual primary causes of a secondary thrombophlebitis can be rather easily excluded. This disorder is both recurrent and non-recurrent in type. With the recurrent variety there is often residual edema, but with the non-recurrent variety recovery is usually complete. No discussion of thrombophlebitis is complete without mentioning many of the ordinary causes for secondary thrombophlebitis. It is an extremely common disease and one that is usually easily recognized. It occurs frequently after surgical operations, during pregnancy or shortly after delivery, in asso-

ciation with heart disease, as a part of a great many infectious diseases, during the course of many blood dyscrasias, particularly severe anemias, polycythemia and the leukemias, and secondary to trauma.

I would like to ask Dr. DeGowin to discuss the thrombophlebitis which occurs with paroxysmal nocturnal hemoglobinuria. That disorder was initially considered in the patient under discussion.

Dr. Flocks should discuss the problem also, since it occurs with renal neoplasms. I think there is a rather striking difference in the frequency of its occurrence with renal neoplasms as contrasted to other urogenital carcinomas. I would like, also, to ask Dr. Tidrick if he has any explanation for the fact that the anticoagulents which were used in adequate dosage failed to control this patient's clotting mechanism. Perhaps he may wish to comment on the etiology of the thrombophlebitis secondary to neoplastic disease.

Dr. E. L. DeGowin (Internal Medicine): There are only about fifty cases of paroxysmal nocturnal hemoglobinuria cases reported in the literature. We have one that is not reported. About half of them have had migratory thrombophlebitis. No one has much insight into the mechanism of migratory thrombophlebitis in this disorder. The red cells, it has been demonstrated, are more readily hemolyzed with slight changes in the pH of the blood toward the acid side. The acidity of the blood decreases pH during sleep but not as much as laboratory observation would lead us to believe is necessary to produce hemolysis. Before we knew the diagnosis, our patient had had about thirteen or fourteen attacks of superficial migratory thrombophlebitis in various parts of the body and a splenectomy was done. The operation was performed about two years ago and, strangely enough, while her disease has progressed, since that time she has not had any more attacks of thrombophlebitis.

Dr. Rubin Flocks (Urology): Migrating thrombophlebitis does occur with hypernephroma particularly; and although it is not very common, it still occurs possibly in a greater number of patients than you would expect, to be just an ordinary coincidence. Now, I am wondering if the relatively high incidence of thrombophlebitis in hypernephroma is not due to two things: (1) the tendency of the tumor to invade blood vessels and veins and get into the circulatory system; and (2) the ability of the tumor cells themselves to provoke thrombophlebitis.

This situation apparently occurs much more frequently with carcinoma of the pancreas than

it does with any other neoplasm, and it cannot be explained upon the basis of obstruction to vessels or anything of that sort. Could it be that carcinoma of the pancreas in the process of metabolism is producing some substance which causes this? And what is that substance? In carcinoma of the prostate, for example, it appears to be something that is associated with metabolism of the normal prostate.

It would be interesting to see chemical studies of the concentration in the blood of the substances which are normally produced to see whether these concentrations are in ratio with carcinoma. For example, in certain tumors of the adrenal it becomes obvious in those tumors that excess hormones are produced.

Dr. W. H. Rendelman (Davenport, Iowa): I happened to be fortunate enough to be the first one confused by this case. He came to me because of epigastric distress.

It awakened him at night. It usually came on one and a half to two hours after eating, and he found that more and more as the "Tums" didn't work that he got some relief from eating. He had had slight bouts of nausea but no vomiting. His stomach was examined by x-ray and our findings were that he had a rather indistinct duodenal cap. Some barium remained, and we couldn't quite get it cleared out. There was a suggestion of a roughening there. There was a small amount of barium remaining in the lower inch or two inches of the esophagus. Looking back, of course, we should have paid lots of attention to some of these things. His pain and tenderness had extended over into the region of the spleen.

A week later I saw him again. This time his right calf was enlarged and tender, and a definite diagnosis of phlebitis was made. He reported his stomach condition was much improved, but he had decided to go to bed as his legs were becoming weak, and he had trouble getting around.

I would like to know why an exploratory laparotomy was not done, because it was definite in the minds of some of you that this wasn't simply a phlebitis after he had been here a very short time. I would like to know also why disastase studies were not done.

Dr. January: Dr. Sheets has reviewed the records of many of the patients with carcinoma of the pancreas seen in this hospital. Have you found any correlation between blood amylase studies and proved cases of carcinoma of the pancreas?

Dr. Ray Sheets (Internal Medicine): I have reviewed fifty records, and the test was done in

only eight cases. It was abnormal in none of these cases.

Dr. January: I think it is the general opinion that the blood amylase level is of little help in the diagnosis of suspected carcinoma of the pancreas.

Dr. E. D. Warner (Pathology):

Dr. Thomas found some figures on the frequency of thrombophlebitis in cases of pancreatic carcinoma. I wonder if you would give those figures, Dr. Thomas.

Dr. C. G. Thomas (Surgery): Sproul of Columbia University (*Am. J. Cancer*, 34:566, 1938), reviewed 4,258 consecutive autopsies for the presence of venous thrombi. Venous thrombi were present in 8 per cent. Carcinoma was the most common cause of thrombosis of the veins of the neck, abdomen, pelvis and extremities. In 47 cases of carcinoma of the pancreas, multiple venous thrombi were present in 31.3 per cent of the cases in which the neoplasm arose in the body or tail and only 9 per cent of the cases in which the neoplasm arose in the head.

No similar relationship was present in 25 benign tumors and 83 metastatic tumors of the pancreas.

Dr. Warner: It would seem that when the carcinoma was located in the head, the evidence of thrombophlebitis was about the same as in patients who died from all causes. When the neoplasm was located in the body or tail, however, the evidence is more than three times that of the over-all series. This certainly seems to me to be statistically significant.

Dr. Rendelman: Was there anything unusual about the lower end of the esophagus?

Dr. Warner: The lower end of the esophagus, as well as the rest of the digestive tract, was normal insofar as we could determine.

Dr. Flocks: How easy is it to find a small one in an exploratory laparotomy and to remove it?

Dr. Tidrick: I should like to have an opportunity to find out. I know that we have seldom found a "small one," excluding carcinoma of the ampulla. I should say that in the past ten years nine out of ten instances of carcinoma of the pancreas that have come to exploration have had some distant metastasis, and usually the primary is quite large. There have been very few exceptions, including the two or three benign tumors of the pancreas that have been seen.

Dr. Rendelman asked why this man was not subjected to the relatively innocuous procedure of exploratory laparotomy. I feel that is a pertinent question and one that we cannot as easily evade as the one pertaining to the blood amylase.

I believe that in the future we should adopt a more radical attitude in that respect. If again we see a patient with a migratory phlebitis of this type in whom we have been reasonably diligent in ruling out these other entities that we mentioned this afternoon, I think then the clear course should not be to subject the patient to dicumarol and heparin (which obviously in this case did no good at all) but, before that bridge is burned behind us, to do an exploration in the chance that it may be due to pancreatic carcinoma and in the more remote chance that it may be operable. The risk of simple exploratory laparotomy should be below $\frac{1}{2}$ of 1 per cent and should not deter us.

From the very recent meetings of the Federated Societies at Atlantic City, we were interested in how much attention in the field of blood coagulation is currently being paid to the platelet. In the past year there have been several works that are of interest along these lines. In the state in which hypercoagulability exists, it seems that there are changes in the blood platelets which may be measured and which may give some indication whether there is some general disturbance. Now I am not saying it is the blood platelet which initiates the change in the coagulation mechanism but merely that the platelet reflects it. I think there should be something that we could measure in the blood of patients with neoplasia which should give us some clue to this abnormal clotting state and that this substance will not be found, in these instances, locally in the endothelium. The patchy distribution in the peripheral veins—veins which should not be subject to anoxia—I think points toward it being some defect circulating in the blood rather than in the vessel.

Dr. Warner: This platelet data which Dr. Tidrick mentioned is rather intriguing and might turn out to be rather important in elucidating abnormal blood clotting. Some of the cases of hypercoagulability, and some of those which have a tendency to bleed are not readily explained by study of any of the ordinary clotting factors of the blood. The one thing that I think we can get from this case is that the abnormal clotting is not to be explained upon neoplastic invasion and local destruction of the vessel walls at the site where these thrombi start. One of the previous cases we had did have rather extensive neoplastic involvement of the same vessels that were involved actively by thrombosis. This case is not of that type and there seems to be an abnormality of some other factor in the clotting mechanism which is not reflected in ordinary clotting studies.

Dr. Flocks: What percentage of all cases of

migrating thrombophlebitis would you think there is associated with neoplasms?

Dr. Tidrick: Well, our view is distorted because we see patients who are referred here with neoplasm, and we don't see the average office practice. Of those that we see in which veins of the upper extremity or superficial veins of the trunk are involved, I should say that three-fourths are associated with neoplasm.

Dr. E. D. Plass (Obstetrics and Gynecology): Do you ever see the condition with an early neoplasm, or is it always a manifestation of the terminal phase?

Dr. Tidrick: Yes, we saw one case of hypernephroma in which the lesion was quite small. There were no metastases.

Dr. Rendelman: Is there any connection between the invasive capacity of the neoplasm and the evidence of thrombophlebitis?

Dr. Warner: I don't believe so. This man did not have enough neoplastic tissue in his liver to give portal obstruction, and the thrombi were not in the portal bed. Many cases come to autopsy with the liver massively replaced by neoplasm but without phlebitis. Neoplastic involvement of the liver does not seem to interfere with the blood clotting process in this way at least.

S. U. I. POSTGRADUATE COURSE IN GENERAL SURGERY

May 11-14, 1948.

TUESDAY, MAY 11, 1948

- 9:00 a.m. Operative Clinic—Breast Operations
Operating Amphitheaters I-IV.
- 11:00 a.m. The Use of the Intramedullary Nail in
the Treatment of Pathologic Fractures.
Dr. J. L. Ehrenhaft
- 12:30 p.m. Lunch
- 1:30 p.m. Papers and Discussion:
1. Benign Lesions of Breast.
Dr. N. A. Womack
 2. Significance of Nipple Discharge
Dr. B. A. Donnelly
 3. Palliative Treatment of Metastatic
Breast Carcinoma with Testosterone.
Dr. R. E. Petersen
- 4:00 p.m. Lecture—
"Mechanism of Edema"
Dr. Ancel Keys
University of Minnesota

WEDNESDAY, MAY 12, 1948

- 9:00 a.m. Operative Clinic—Gastric Operations
Operating Amphitheaters I-IV.
- 11:00 a.m. Demonstration of Methods of Field
Block Anesthesia.
Dr. S. C. Cullen and Staff
- 12:30 p.m. Lunch

1:30 p.m. Papers and Discussion:

1. Ten Year Study of Survivals in Gas-
tric Carcinoma.
Dr. P. G. Becker
2. Technic and Evaluation of Methods
in Total Gastrectomy.
Dr. E. S. Brintnall
3. Palliative Treatment of Metastatic
of Duodenal Ulcer by Partial Gas-
trectomy.
Dr. S. E. Ziffren and
Dr. L. E. Zager
4. Peptic Ulcer.
Dr. N. A. Womack

THURSDAY, MAY 13, 1948

- 9:00 a.m. Operative Clinic—Colon Operations.
Operating Amphitheaters I-IV.
- 11:00 a.m. Case Presentations and Demonstration
of patients.
- 12:30 p.m. Lunch
- 1:30 p.m. Papers and Discussion:
1. Psychosomatic Aspects of Ulcerative
Colitis.
Dr. M. E. Barrent
 2. Pathology of Ulcerative Colitis.
Dr. F. W. Stamler
 3. Review of Colectomy in Treatment
of Ulcerative Colitis.
Dr. J. W. Dulin and Dr. J. L. Saar
 4. Review of Multiple Polyposis.
Dr. J. A. Ahrens
- Dinner: Hotel Jefferson, 8 p.m.

FRIDAY, MAY 14, 1948

- 9:00 a.m. Operative Clinic—Operations in Neuro-
and Thoracic Surgery.
Operating Amphitheaters I-IV.
- 11:00 a.m. Review of Results in Treatment of Car-
cinoma of the Lip.
Dr. W. W. Kridelbaugh
- 12:30 p.m. Lunch
- 1:30 p.m. Papers and Discussion:
1. Indications for Splenectomy; End
Results.
Dr. F. R. Peterson and
Dr. W. M. Fowler
 2. Surgical Treatment of Intractable
Pain.
Dr. H. R. Meyers
 3. Newer Advances in Hemostasis.
Dr. R. T. Tidrick
 4. Choice of Anesthesia Agents.
Dr. S. C. Cullen

Lunch can be obtained in the Doctors' Dining Room at 12:30. Tickets can be purchased at the Hospital Cashier's window in the main entrance to the Hospital.

Attendance is limited to 20 and applications will be accepted in the order they are received when accompanied by the fee of \$25.00. Checks should be made payable to the State University of Iowa and mailed with your application to the Director of Medical Postgraduate Studies, Room 259, Medical Laboratory Building.

STATE DEPARTMENT OF HEALTH



IOWA PUBLIC HEALTH ASSOCIATION IN ANNUAL MEETING

The Iowa Public Health Association will hold its twenty-first annual meeting on Thursday and Friday, May 27-28, at Hotel Savery in Des Moines. A cordial invitation to attend the sessions is extended to attending physicians and to those who serve as local health officers in cities and counties of Iowa. The tentative program of the meeting is as follows:

TENTATIVE PROGRAM

21st Annual Meeting

IOWA PUBLIC HEALTH ASSOCIATION

Hotel Savery, Des Moines

IOWA'S HEALTH—A COMMUNITY RESPONSIBILITY

Thursday Morning, May 27, 1948

- 9:00 Registration.
Presiding, Miss Geraldine Busse, R.N., Centerville, President, Iowa Public Health Association.
- 9:30 Welcome — Honorable Hector C. Ross, Mayor of Des Moines.
- 9:50 "Improving Public Relations"—Mr. Robert Blakely, Editorial Writer, *Register and Tribune*.
- 10:10 "Improving Public Relations"—Dean F. Smiley, M.D., Chicago, Consultant in Health Fitness, American Medical Association.
- 10:30 Symposium: "Psychology of Public Relations and Public Health"—Moderator, L. C. Murray, Director, Division of Public Health Education, Iowa State Department of Health.
Participants: Robert Blakely, E. W. Kingery, Dean F. Smiley, M.D., Harriet Lingo, Charles Martin.
- 12:00 Adjournment.

Thursday Afternoon

Presiding, C. L. Putnam, M.D., Director, Local Health Services, Iowa State Department of Health.

- 1:30 "How Your Home Community Benefits from County Boards of Health"—R. N. Barr, M.D., Minneapolis, Chief, Section of Departmental Administration, Minnesota State Department of Health.
- 2:00 Symposium: "Handling Local Health Problems" — Moderator, Joseph Dean, M.D., Kansas City, Missouri, Medical Director, District No. 7, U. S. Public Health Service.
Participants: A. H. Wieters, Des Moines; R. C. Hanlon, Des Moines; E. B. Hoeven, M.D., Ottumwa; Elizabeth Trei, Sibley; Joella Antes, R.N., Cedar Rapids; Marjorie Rodman, R.N., Washington.
- 3:30 Adjournment.
- 6:30 Dinner—Presiding, Miss Geraldine Busse, R.N.
Music.
Introduction of Guests.
"Mental Hygiene"—James F. Maddux, M.D., Kansas City, Missouri, Consultant, Mental Hygiene, U. S. Public Health Service.
- Friday Morning, May 28, 1948**
Presiding, Carl Potter, Des Moines, Vice President, Iowa Public Health Association.
- 9:30 Symposium on Milk and Food Sanitation. Participants representing the restaurant and dairy industries, and milk and food sanitarians.
- 10:30 "Past Accomplishments and Challenge of the Future"—Mr. R. W. Hart, Kansas City, Missouri, Sanitary Engineer, Consultant, Milk and Food Control, U. S. Public Health Service.
- 11:00 Business Meeting.
- 12:00 Adjournment.
Preview of new films 12:30 to 2:00 p. m.

Friday Afternoon

1:45 Symposium: "The Health of the Child."
Moderator, Olin E. Hoffman, D.D.S.,
Director, Division of Dental Hygiene,
State Department of Health.
Participants: Perry Amick, M.D., Des
Moines; Gilbert Kelso, Iowa City; Elvira
Grabow, R.N., Iowa City; I. H. Borts,
M.D., Iowa City; X. P. Boyles, Ft.
Dodge; Norman Gerrie, D.D.S.

1948 NATIONAL MEETING ON INDUSTRIAL
HEALTH

The American Association of Industrial Physi-
cians and Surgeons, the American Conference of
Governmental Industrial Hygienists, the Ameri-
can Industrial Hygiene Association, the Ameri-
can Association of Industrial Nurses, and the
American Association of Industrial Dentists held
their annual joint meeting at Boston from March
27 to April 4, 1948. These organizations repre-
sent all professions which have active responsibil-
ities in the various phases of industrial health work.

In this meeting members of the organizations
approached the health problems in industry with
the same united spirit with which they met war-
time emergencies of occupational accidents and
disease. Each of the organizations gave its spe-
cialized contribution to the underlying purpose of
them all—"Full Health for All Men and Women
in Industry." The aim of the joint meetings is
to provide a means of developing a co-ordinated
attack on industrial illness and a co-ordinated edu-
cational program to preserve and increase the
national health, factors upon which the workers'
well-being, the conservation of industrial man-
power, and the future of our economy all depend.

Subjects receiving special attention at the
meeting included the effects of heat exposure,
radiation hazards in industry, and industrial tox-
icology. Papers of particular interest presented
at the meeting included "How Can Medicine Best
Serve the Worker in Industry?" by Charles E.
Hodges, President, American Mutual Liability
Insurance Company, and Bruce S. Black, Presi-
dent, Liberty Mutual Liability Insurance Com-
pany; "The Psychiatrist in Industry" by A. War-
ren Stearns, M.D., Professor of Sociology, Tufts
College; "Brucellosis in Industry" by Carl F.
Jordan, M.D., Division of Preventable Diseases,
Iowa State Department of Health; and the Cum-
mings Memorial Lecture, "Forty Years in the
Poisonous Trades" by Alice Hamilton, M.D.,
Hadlyme, Conn.

MORE ABOUT HUMAN BRUCELLOSIS AS
RELATED TO OCCUPATION

Through the courtesy and interest of attend-
ing physicians of Iowa, a series of 2,031 brucello-
sis reports has been assembled by the State De-
partment of Health during the eight year period
1940-1947. The 2,031 patients concerned include
only such individuals whose occupation brought
them into direct contact with farm animals prior
to illness. Information pertaining to occupation
or industry concerned, with the number of per-
sons and per cent of total for each occupation, is
contained in the table which follows:

HUMAN BRUCELLOSIS IN IOWA 1940-1947		
Distribution according to Industry or Occupation of 2,031 Cases with History of Direct Contact with Animals		
Occupation	Number	Per Cent of Total
Male farm workers.....	1,480	72.9
Meat packing industry.....	442	21.8
Veterinarians and assistants.....	43	2.1
Handlers of livestock.....	27	1.3
Retail butchers.....	13	0.6
Livestock dealers.....	9	0.4
Miscellaneous occupations.....	6	0.3
Rendering plants.....	5	0.2
Locker plant employees.....	3	0.1
Sales barns.....	3	0.1
TOTALS.....	2,031	99.8

It is assumed that the factor of direct contact
accounts for the spread of infection from hogs
and cows to human beings in a high percentage
of those listed in the above table. Although near-
ly all farm residents are accustomed to using raw
milk and cream, the fact that approximately 75
per cent of the rural patients are male farm work-
ers emphasizes the role of direct contact which
allows brucella germs to invade the human body
through the skin.

It is likely that friction which attends the
seizure of struggling animals plays an important
part by forcing the causative germ into the skin.
Casual contact with animals is probably insignifi-
cant compared with more close contact.

MORBIDITY REPORT				
Diseases	Mar. '48	Feb. '48	Mar. '47	Most Cases Reported From:
Diphtheria	8	5	9	Muscatine, Woodbury
Scarlet Fever	157	215	228	Dubuque, Polk, Wash- ington
Typhoid	4	2	1	Lee (4)
Smallpox	0	0	1	.....
Measles	2,370	287	322	Blackhawk, Clinton, Dubuque, Woodbury
Whooping Cough	76	22	76	Des Moines, Linn, Polk
Brucellosis	38	31	134	Scattered
Chickenpox	569	321	475	Des Moines, Floyd, Linn, Woodbury
German Measles ..	3	11	3	Adams, Dubuque, Sioux
Influenza	13	28	16,864	Clayton
Malaria	1	3	2	Buena Vista
Meningitis	3	7	6	Clinton, Muscatine, Woodbury
Mumps	529	363	307	Dubuque, Johnson, Linn, Polk
Pneumonia	14	16	47	Fremont, Marion, Polk
Poliomyelitis	8	0	0	Osceola (4), Woodbury (4)
Tuberculosis	65	94	68	For the State
Gonorrhea	56	71	112	For the State
Syphilis	111	125	148	For the State

The JOURNAL of the Iowa State Medical Society

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Annual Meeting

The ninety-seventh meeting of the Iowa State Medical Society certainly will take its place in the memories of the members in attendance as one of the outstanding sessions. Again, from a number viewpoint the registration was successful, there being 811 members, 112 guests, 180 exhibitors, and 177 Woman's Auxiliary members, or a total of 1,280.

The JOURNAL desires to express its appreciation to the program committee, both for the quality of the speakers and in the general interest of the papers presented. As is customary, the papers will appear in the succeeding issues of the JOURNAL; also the transactions of the House of Delegates. Dr. Nathaniel G. Alcock of Iowa City was designated president-elect, and it was announced that Des Moines again will be the location for the next meeting.

The technical exhibits, as usual, added greatly to the success of the meeting. We are often prone to overlook the arduous hours of labor which go into a well prepared exhibit; nevertheless, contributors of these displays were rewarded for their efforts by the very evident interest of those in attendance.

A special word of commendation is due the retiring president of the Woman's Auxiliary, Mrs. Fred Moore. Under her sponsorship the membership of the organization was increased by over 150 members.

Again the JOURNAL expresses the appreciation of the officers of the State Society to everyone who contributed to the planning and completion

of this year's program. Those who were unable to attend this year are especially invited to the 1949 meeting; the members in attendance certainly will be inspired to return in 1949.

Night Calls

Considerable comment has appeared in the press recently criticizing the medical profession for an apparent unwillingness of doctors to make night calls. Many specific charges in other states were found upon investigation to be untrue. Certainly here in Iowa there have been few instances of such a nature. The larger medical centers of the state have anticipated calls for physicians late at night and have made arrangements for the handling of such calls through some central telephone agency. Members of the county medical societies have been polled, and the names of those doctors willing to make night calls have been furnished to the agency.

Few problems in the field of medical service have aroused so much public discussion. Whether resentment against physicians is justified or not, such criticism does harm. By the simple and practical expedient of arranging for some physicians' telephone service, either by a telephone exchange or service through hospitals, the sick can be served and the medical profession can redeem its pledge of unselfish public service. The solution for the problem thus becomes so simple and reflects so favorably upon physician-patient relationships that medical societies throughout the state are urged to give immediate serious consideration.

Electrical Hazards

In a recent issue of *Electrical Engineering*, attention was directed to the problem of electrical hazards and its ramifications. Contrary to the usual idea, the author, C. F. Dalzier, pointed out that the actual danger to life is dependent almost entirely upon the current produced in the body rather than on the voltage. As a result, electrical workers as well as the general public are not yet sufficiently cognizant of the danger of low-voltage shocks.

Current passing through the body in accidental contact depends upon (1) the voltage; (2) the body, skin, and contact resistance; and (3) the resistance of the rest of the circuit. Since moisture and firm contact with the circuit greatly affect the total resistance, the hazard is increased many times when moisture and well grounded objects are involved.

Although no electrical hazard is produced by

currents slightly in excess of the threshold of perception, such shocks are startling and may cause loss of balance and subsequent injury by a fall. With gradually increasing alternating currents, the first sensations of tingling give way to contractions of the muscles. As the current is increased, sensations of heat and muscular contractions increase; then sensations of pain develop, and finally the current is such that a person cannot release his grasp of the conductor, thus "freezing" to the circuit. If this is of long duration, collapse, unconsciousness and death result. Alternating currents in excess of 25 milliamperes are very painful, and, when the current pathway is across the chest, the muscular reactions become so severe that breathing is difficult if not impossible for the duration of the shock. Death may result from asphyxiation if the current persists for more than a few minutes. However, if the current is interrupted within a reasonable time, breathing is resumed automatically and no serious aftereffects result.

Currents considerably in excess of those causing stoppage of breathing due to muscular contractions may produce temporary paralysis of the nerves controlling respiration, a condition termed respiratory inhibition. Respiratory paralysis may last for a considerable period after interruption of the current, and immediate and continued artificial respiration must be applied to prevent asphyxial death. Often respiratory inhibition disappears in a few minutes or in a few hours; therefore, the continued application of artificial respiration may save the victim. Mere cessation of natural breathing is not likely to produce serious aftereffects or permanent damage.

Currents in excess of 100 milliamperes, if they take a pathway through the body in the region of the heart, may affect the heart, causing ventricular fibrillation which is nearly always fatal. For shocks short in duration (as compared with the period of the heart cycle), the probability of producing ventricular fibrillation varies with the part of the heart cycle in which the shock occurs. The greater tolerances for shocks of short duration, together with the variability in sensitivity of the heart to fibrillate, explains why some accident victims survive apparently heavy momentary shocks.

The susceptibility to ventricular fibrillation increases with current up to a maximum and then decreases as the current is increased. The explanation of this phenomenon is that the muscular contractions produced by high currents cause such violent contractions of the chest and heart muscles that the heart is held still in a viselike grip,

and fibrillation is prevented. If the shock is of short duration, the muscles spontaneously relax upon interruption of the current and the heart may resume its normal rhythm. If the shock is of appreciable duration, death from heart failure is inevitable.

Physicians should educate the public that artificial respiration should be begun immediately upon rescue of a victim from a circuit, since it is impossible for a layman to distinguish between respiratory inhibition, ventricular fibrillation, and heart failure. It is very important that resuscitation be continued without interruption, because if the supply of oxygen to the brain is cut off for more than a few minutes, serious permanent injury to the brain is likely to result should the victim recover. The patient should be kept warm and artificial respiration be continued until the victim recovers, rigor mortis sets in, or the physician pronounces him dead.

Meeting of A.M.A. Council of N.E.M.S.

Although governmental authority and agencies may seem to be fumbling in their thinking regarding an impending national crisis, the same cannot be said for organized medicine. This fact was forcibly made clear at the spring session of the American Medical Association's Council of National Emergency Medical Service in Chicago on April 5 and 6. To this meeting was invited a representative from each State Society, and also in attendance was personnel from all the allied health organizations — dentistry, nursing, veterinary, pharmacy and hospital.

A complete picture of present day setups of the military in all its branches was presented, as was a forecast of the possibilities from atomic energy. In the latter category great emphasis was placed on the newly established office of civilian defense, for therein lay a great responsibility for the medical profession. In a previously submitted questionnaire to the various state governors regarding the establishment of a civil defense organization, thirty-seven replies were received indicating that plans were being made. The comment from Iowa was to the effect that a committee was studying a plan. Interesting, however, was the fact that there was no medical representative on any of the organizations which submitted a roster.

Dr. Stafford Warren, Dean of the School of Medicine, University of California, and one of the participants in the Bikini "Crossroads" operation, showed motion pictures of that incident and a subsequent training film illustrating the methods

of decontamination following the blasts. This film emphasized the tremendous responsibility that would fall on the profession were we subjected to such a catastrophe. The long time existence of after-effects of atom radiation and the wide geographic extent of dissemination of the rays emphasized the importance of decentralization of defense centers on the extreme periphery of large vulnerable cities. To that end the speakers suggested that at this time only organizational setups be made rather than attempting to procure equipment which has not as yet been perfected. However, plans for the concentration of blood and plasma, bandages and anti-burn material could well be instigated.

The three branches of the armed services were each represented by deputies of the various surgeon generals. Also present was Col. Eanes of the Office of Selective Service Records. Their remarks had considerable bearing on our profession. To all it seemed a foregone conclusion that Selective Service would again be activated. The naval representative stated that reserve officers, either army or navy, could not be recalled for other than fifteen days a year except by congressional action or the declaration of an emergency by the President.

The setup of draft boards will be as before—probably three physicians to a board and again, service without compensation. The most enlightening and progressive utterance was made by the air surgeon when he stated that in World War II 40 per cent of our effective physicians were employed to care for 9 per cent of the population, a definite wastage of medical skill. Should another emergency develop, tables of organization will be greatly changed and made more flexible.

The American medical profession is actively alive to the possibilities. It behooves our State Society to have ready an organization which can effectively integrate itself into the national picture.

AMERICAN COLLEGE OF RADIOLOGY MEETING

The twenty-fifth anniversary meeting of the American College of Radiology and the Past Presidents' Dinner will be held at the Sheraton Hotel, Chicago, June 20, 1948. All living past presidents will be the guests of the College for the event, and the councilors of the College will be the guests of the Board of Chancellors at the annual councilors' luncheon that day. The annual meeting will begin at 2:30 p. m. Dinner reservations (\$8 per plate) should be sent in as soon as possible.

SPEAKERS BUREAU

SPEAKERS BUREAU SERVICES

The Speakers Bureau provides, upon request, the following:

1. Speakers to discuss suggested subjects at meetings of county or district medical societies and lay organizations.
2. Assistance in planning and conducting postgraduate courses and institutes.
3. Medical and health films for professional and lay groups.

The Bureau also sponsors a medical program broadcast weekly over Radio Stations WOI, Ames, and WSUI, Iowa City.

The purpose of the Speakers Bureau is to render service. Requests for help are welcomed. Contact Speakers Bureau, 505 Bankers Trust Building, Des Moines 9, Iowa. Telephone 3-0928.

County medical societies are asked to make their requests for fall or winter postgraduate courses and institutes at the earliest possible time. This enables the Bureau to schedule a much higher quality program than otherwise could be provided. Your cooperation will be appreciated.

PEDIATRIC AND OBSTETRIC INSTITUTE Sioux City, Iowa

May 6, 1948—Mayfair Hotel

Philip L. Bettler, M.D., Local Chairman

- 4:00 p. m. Infant Feeding
Daniel B. Landau, M.D., Hannibal, Mo.
- 5:00 p. m. Prevention of Behavior Problems
Lee F. Hill, M.D., Des Moines
- 6:30 p. m. Dinner
- 7:30 p. m. Early Recognition and Treatment of Toxemia of Pregnancy
Wm. J. Dieckmann, M.D., Chicago
University of Chicago School of Medicine
- 8:30 p. m. The Rh Factor in Obstetrics
Kenneth E. Cox, M.D., Kansas City, Mo.
Kansas University School of Medicine

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Wednesday at 2:45 p. m.

WSUI—Thursday at 11:45 a. m.

- May 5-6 Fly Control—Harold Gunderson, Ames
- May 12-13 Sanitation in Home and Eating Places
H. E. Ransom, M.D., Des Moines
- May 19-20 Diarrheal Diseases—R. C. Eaton, M.D., Clarion
- May 26-27 Rheumatic Fever—C. A. Nicoll, M.D., Panora

VETERANS ADMINISTRATION

SOME ASPECTS OF PHYSICAL MEDICINE AT THE VETERANS ADMINISTRATION CENTER DES MOINES IOWA

Harry H. Samberg, M.D., Chief,
Physical Medicine Rehabilitation Service

The Physical Medicine Rehabilitation Service at the Des Moines Veterans Administration Center was formally organized as such June, 1945. Previously, the only unit was physiotherapy. At present, the service consists of five units: physical, occupational, corrective, manual arts and educational therapy. In addition, there is a Rehabilitation Board to which severely disabled and/or handicapped patients are referred. It should be recognized that physical medicine is now a specialty as any other of the medical specialties. The physiatrist must have practical knowledge of anatomy, kinesiology, physiology, neurology, physics, pathology of the many diseases treated by physical medicine. A correct and thorough outline of treatment may often be the difference between normalcy and disability; between activity and vegetation.

As defined by Krusen¹ of the Mayo Clinic, physical medicine can be thought of as applied biophysics (from the Greek words "bios" meaning life, plus "physika" meaning physical or natural things) and it includes the employment of the physical and other effective properties of ultra-violet and infra-red radiation, heat, cold, water, electricity, massage, manipulation, exercise and mechanical devices, either for diagnosis or for physical or occupational therapy or both.

Rehabilitation includes the employment of physical medicine, psychosocial adjustment and vocational training in an attempt to achieve the maximum function and adjustment of the individual patient and to prepare him physically, mentally, socially and vocationally for the fullest possible life compatible with his abilities and disabilities.

It is estimated that there are approximately 23 million persons in the United States who are handicapped because of disease, injury, maladjustment or from former wars. Of these, it is estimated that approximately 97 per cent can be rehabilitated to the extent of gainful employ-

ment.² It is calculated that for each dollar invested in this type of work there is an approximate gain of \$47 to society.³

A patient is referred to any unit of our service by his ward physician on a regular prescription form, which contains the necessary data exclusive of the actual treatment.

Physical Medicine Diagnoses

The diagnostic phases of the service consist of manual muscle examinations; measurement range of joint motion; electrical tests with the faradic and galvanic current to determine reaction of degeneration, and/or aiding in localizing a nerve lesion and its approximate severity; skin temperature tests, which are a diagnostic and prognostic evaluation of the peripheral circulation; and lastly, sweating tests to determine peripheral nerve lesions, and to aid in determining the extent of a sympathectomy, which are done in our hospital for previously evaluated cases of malignant hypertension, causalgia, or circulatory involvement of the upper and/or lower extremities, etc. Ray and Console,⁴ in a very interesting investigation, have shown that return of sympathetic activity (in our cases determined by sweating; and determined by Ray and Console by measuring skin resistance, using a dermohmmeter) after any of the common operations of sympathectomy is not necessarily and not usually due to regeneration of nerves. Such sympathetic activity remaining after the standard sympathectomies may be interrupted by anterior rhizotomy, spinal anesthesia tetraethylammonium and procaine block, or division of the lumbar nerves. They refer to this process of returning sympathetic activity as readjustment.

In addition patients are fitted with arch supports. These are first fitted to the patient from ordinary hand paper toweling, in a weight bearing position. The measurements are then taken for the actual prescription of the supports. These are made of leather; very infrequently is a Whitman plate prescribed. Fitting in a weight bearing position and making the support of leather takes care of the resiliency of the arch which is extremely important kinesiologically. No arch support where definitely indicated should ever prove ineffective. Most failures are due to either high build-up of the support or placing most of the build-up under the scaphoid instead of the sub-

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astragalar joint, where downward rotation of the foot takes place in pes planus. Another very important point is that some patients have congenital foreshortening of the large toe, as emphasized by Morton,⁵ with dorsal hypermobility of the first metatarsal segment (first metatarsal with its digit and the medial cuneiform bone).

A score or more of patients referred to physical therapy with low back pain have been relieved when following examination, one or the other of the lower extremities were found to be short. Building up the appropriate shoe solved the problem. In this connection, it is important to remember that the sole of the shoe must also be built up in proportion to the heel but not the same as the heel. This balances the shoe and maintains the relationship of the angle of one ankle with the other. This improper angle relationship may produce muscle imbalance and oftentimes be the cause of pain in the calf, behind the knee and occasionally in the back, so that it may sometimes be concluded that the original back pain was not relieved.

Other patients, when referred, are examined for the prescription of, recommendation for repair of, or examination of an artificial limb. Whether it is a below or above the knee amputation, the limb should be so made that the pelvis is horizontal and the spine vertical (without a scoliotic curve on weight bearing). In above the knee prosthesis, the line of the knee joint must be horizontal to the frontal plane; otherwise on extending the leg, its direction will be oblique, either laterally or medially, instead of forward. This could also be due to improper adjustment of the prosthesis to the stump by the patient.

Referral of Patients

All physical therapy referrals are sent direct to the Chief of the Service who then examines the patient, reviews the clinical folder and the x-rays when necessary. Treatment is then prescribed and the clinical form is routed to the chief of the physical therapy unit, and the patient is assigned to a technician. All forms of treatment are represented in this unit except fever therapy and a swimming pool.

Referrals to the corrective therapy unit are made directly. Where the exercise treatment is routine, for example, to prevent deconditioning, immediate postoperative exercises or early ambulation, no consultation with the physiatrist is required. Other cases are examined together, discussed informally and treatment outlined. Preoperative and postoperative thoracic surgery patients are treated by the physical therapy unit, which instructs the patient in relaxation, muscle exercises and the

various breathing procedures. All postoperative cases are usually seen as soon as anesthesia and/or shock wears off.

Referrals to the occupational, manual arts and educational therapy units are made direct. Treatment is immediately conducted by the individual units without consulting the physiatrist, except in cases of functional treatment in manual arts or occupational therapy when this becomes necessary.

The chief of any unit, or any technician can, and in fact is encouraged to consult the chief of the service when any problem or complication arises, or when any progress is not deemed satisfactory as to time or scope.

The rehabilitation board meets at least once a month and consists of the physiatrist as chairman, the chief of each unit, the social service worker, vocational advisor and training officers, and when indicated the chief of special services, clinical psychologist and psychiatrist. Each submits his or her report, the case discussed as to progress and further recommendations and a monthly summary of each case is made.

Besides informal talks with the different units of this service, lectures are given to the nurses, and in rotation with the other hospital services to the entire medical staff.

Since April 1, 1947, we have conducted a treatment program for hemiplegics due to cerebral vascular accidents to determine what physical medicine can offer. The crux of the program centered about very early corrective and physical therapy treatment. A limited goal was established, the three parts of which are: (1) complete self-care activities and ambulation, including stairs, with or without a cane; (2) no brace supports if possible; (3) as short a hospitalization period as possible. Of the 25 cases charted to date, 2 are still under treatment (one soon to be discharged); 3 have died—2 of acute coronary thrombosis and 1 of pyelonephritis. The remaining 20 have all been discharged, ambulant, able to climb stairs, and take care of all or nearly all self activities; none required a brace. The average treatment period for these 20 patients was 51.9 days. We expect to make a supplemental report on this subject next year when our series will be larger and perhaps more conclusive.

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NEWS NOTES

from the

Committee on Medical Service and Public Relations

COMPULSORY HEALTH INSURANCE CRITICIZED*

Mrs. Marjorie Shearon, Ph.D., legislative consultant of Washington, D. C., recently appeared on a program of the inter-professional meeting co-sponsored by the Decatur District Dental Society and the Illinois State Medical Society held in Decatur, Ill., to express her opinions on socialized medicine. She warned doctors and dentists that pending compulsory health insurance legislation, if enacted, would lead the country to state socialism. "National social insurance, once instituted in a country, grows in coverage, number and amount of benefits, and cost, and permeates the entire life of the populations insidiously and ruinously."

Mrs. Shearon attacked the bills dealing with health now before Congress and termed compulsory health insurance an un-American scheme that would undermine and eliminate the private practice of medicine and dentistry and ultimately destroy all freedom and individual initiative.

She expressed the belief that these compulsory bills do not follow American legislation patterns. She stated, "Instead they are drafted in conformity with principles laid down by the International Labor Organization in Geneva. Those principles were clearly set forth in 1927 in a monumental work on Compulsory Sickness Insurance published by the ILO in Geneva. The principles there enunciated go back one step further to Bismarck's laws of social insurance."

In Mrs. Shearon's opinion the Wagner-Murray-Dingell bill (S. 1320) would entail establishment of voluminous rules and regulations to administer a compulsory health insurance program "akin to those in other countries that have set up such systems."

"The vast complex body of administrative law in connection with national social insurance is what cripples the profession, destroys initiative, lowers the quality of care, and makes political pawns of patients."

She said she thought "Senator Murray himself would not vote for his own bill if he understood what it involved."

She described the Taft-Ball-Smith-Donnell bill (S. 545) as "seemingly mild" with "laudable" objectives. This bill provides for grants-in-aid to states for surveys of medical and dental needs and "for development by the states of their medical and dental care programs for persons in low income groups." It provides for reorganization of health and medical programs in a new agency separate from the Federal Security Agency.

Mrs. Shearon believes, "We would do well not to ponder so much the present mildness of this bill and its present preoccupation with persons of low income, but rather to consider the broad implications of the utilization of general federal revenues to pay part of the medical care bills of a loosely defined segment of the population."

She said the danger of the Taft-Fulbright bill, which would raise the Federal Security Agency to cabinet status, "is that it would enlarge the sphere of influence of the Social Security Administration" which "is not only committed to a program of comprehensive compulsory national social insurance for the entire population, but is busily engaged in writing legislation to force this program on the people."

She voiced her opinion about the bill (S. 1290), which would provide for "grants-in-aid for health services including diagnosis and treatment for all school children between the ages of 5 and 17" which, she said, "if enacted, . . . might mean the ultimate nationalization of medicine and dentistry for 29 million school children . . . 20 per cent of the population."

Don L. Taylor

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*Condensed from the original copy prepared by James C. Leary of the Illinois State Medical Society.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

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NATIONAL CONVENTION

The Woman's Auxiliary to the American Medical Association will hold its twenty-fifth annual meeting at the Hotel LaSalle, Chicago, June 21-25, 1948. All doctors' wives are welcome. Auxiliary headquarters will be on the mezzanine floor of the Hotel LaSalle where all meetings and functions will be held. Tickets should be purchased soon after arrival and all meetings and social affairs will begin at the time scheduled. Visitors are requested to be prompt.

Pre-convention meetings will be held on Sunday and Monday, and there will be a tea in honor of Mrs. Eustace A. Allen, national president, Monday at 4 p. m. to which all doctors' wives are invited. Tickets are \$1.25.

The general meeting will begin at 9 a. m. Tuesday followed by luncheon at 12 noon honoring past presidents at which Morris Fishbein, M.D., will be guest speaker. Tickets are \$3.50. The general meeting on Wednesday morning will also begin promptly at 9 a. m. and the luncheon at 12:30 p. m. honoring Mrs. Allen and Mrs. Luther H. Kice, president-elect. Guests of honor will be Edward L. Bortz, M.D., president of the A.M.A.; R. L. Sensenich, M.D., president-elect; J. J. Moore, M.D., treasurer; George F. Lull, M.D., secretary and general manager; and Morris Fishbein, M.D., editor of *Hygeia* and *Journal of the A.M.A.* Tickets are \$3.50.

The annual dinner of the Woman's Auxiliary for members, husbands, and guests will be held at 6:30 p. m. Thursday. Tickets are \$4. The reception and ball in honor of the president of the A.M.A. will be held at the Palmer House beginning at 9 p. m. Thursday.

Exhibits of the A.M.A. will be at navy pier.

WORK FOR THE CANCER SOCIETY

Editor's Note—The following interesting editorial was prepared by Mrs. David S. Long, a prominent member of the Woman's Auxiliary to the Missouri Medical Society. Mrs. Long has been active in cancer control work for some time, and she is thoroughly indoctrinated in the Auxiliary point of view, having served as president of her state Auxiliary and as a member of the National Board. At present she is a director on the National Board.

When the Field Army of the American Cancer Society was pioneering in its organization, the lead-

ers who were chosen by the society to develop the army found two opposing and extreme points of view among women. There were the lay women who said, "This cancer control program takes too much of my time. I have other interests. The doctors' wives should be doing this. It is the doctor who profits from it." Then there were the wives of doctors who said, "Oh my, I can't work in the cancer program. Someone might think I was trying to get business for my husband."

Both were very wrong and narrow in their view points. The doctor does not "profit" from any program of preventive medicine. If doctors thought in terms of personal profit, they would confine themselves to the practice of medicine and let the public be ignorant. They make up the only profession with which I am acquainted that spends thousands of dollars each year, and weeks and months of time, trying to dry up their markets by keeping people well. As for the doctor's wife who fears she may be wrongfully accused—she will learn that a doctor's practice depends upon his own professional ability rather than upon anything that any gossip may say about his wife.

Our early instructions for the selection of leadership personnel were to enlist women from all of the many groups of organized women throughout the country. In many localities, the Woman's Auxiliary to the Medical Society gave fine support and response. In one city in a nearby state the Auxiliary has taken pride each year in reporting a 100 per cent enrollment in the Field Army. Here and there the doctor's wife has given state and local leadership to the program.

In training women for leadership, it has been found that the experienced and interested doctor's wife proves to be an ideal leader, for she has the background and understanding that those who are privileged to serve with the profession acquire. Thousands of our lay women have attained it through study and work and service to the medical profession, but the doctor's wife has something with which to begin the service.

As we all know, the medical profession has had some bad propaganda thrown at it in recent years by those misguided persons who think state medicine would bring an end to all of the ills that beset mankind. The Field Army has performed a fine service in upholding the profession through the cancer control program and in working with organized medicine

to develop and promote this fine program, which is, in reality, a medical program. Every doctor and every doctor's wife should give support to it.

The doctor's wife in any locality carries prestige that lends dignity and value to the health program of the community. There are many ways in which she can fit into the Field Army program. The lay speakers' bureau, the cancer dressings project, school programs, serving as judge in school essay or poster contests, and solicitation are some of the ways. Do not miss the opportunity to share in a fine creative program for the saving of human life for fear of some petty gossip. Meet it as a challenge to personal tact and ability to rise above the annoyances of life and to give oneself to the larger humanitarian efforts of mankind.—*Medical Auxiliary News*, Kansas Medical Society.

COUNTY AUXILIARY NEWS

The Wapello County Medical Auxiliary met at the home of Dr. and Mrs. W. C. Wolfe, Ottumwa, on April 6. The following officers were elected at the January meeting: Mrs. E. B. Howell, president; Mrs. D. G. Emanuel, vice president; Mrs. G. C. Moore, secretary; and Mrs. S. F. Singer, treasurer.

Officers of the Woodbury County Medical Auxiliary are: Mrs. J. D. Lutton, president; Mrs. F. L. Wilson, vice president; Mrs. W. R. Blum, secretary; and Mrs. Omar Stanch, treasurer.

Mrs. Fred Moore, president of the State Auxiliary, and Mrs. A. G. Felter, president-elect, recently reorganized the Auxiliaries of Cass and Pottawattamie Counties.

Mrs. R. M. Needles was hostess at a luncheon at Hotel Whitney, Atlantic, April 5 at which the following officers were elected for Cass County Medical Auxiliary: Mrs. M. T. Petersen, president; Mrs. Ralph Weaver, vice president; and Mrs. J. F. Moriarity, secretary-treasurer.

Pottawattamie doctors' wives met at the Hotel Chieftain, Council Bluffs, April 6, and reorganized and elected the following officers: Mrs. Isaac Sternhill, president; Mrs. J. B. Sindelar, vice president; Mrs. C. F. Lowry, secretary; Mrs. Russell W. Blanchard, treasurer.

The Webster County Auxiliary held its annual luncheon at the Warden Hotel, Fort Dodge, April 9, 1948. The following officers were elected: Mrs. E. B. Dawson, president; Mrs. A. E. Archer, secretary-treasurer. Mrs. D. L. Borgen of Gowrie was appointed chairman of Nurse Recruitment.

At a meeting at the City Hall at Estherville, April 6, 1948, the Emmet County Auxiliary was organized. Mrs. A. I. Reed was elected president and Mrs. L. E. Collins, secretary-treasurer. There are eleven charter members.

WORK FOR THE HANDICAPPED

Services: The Iowa Society for Crippled Children and the Disabled is a private voluntary organization interested in the welfare of the handicapped. It is supported by the sale of Easter seals. It offers financial aid to physically handicapped persons of all ages according to individual needs or in support of institutional programs for the physically handicapped. The organization provides counsel, directory service and information about disabilities, treatment services and Iowa facilities as needed by professional workers. It cooperates but does not duplicate the programs of state departments or other agencies.

As part of its program, the Society demonstrates desirable programs for the handicapped, encourages legislation for their benefit and offers scholarships to teachers and nurses working with the handicapped. An informational program is carried on to bring the needs of handicapped persons before the public.

The services cover case-finding, medical and dental care, surgery, hospitalization, treatment, hearing aids, glasses, braces, crutches, artificial limbs, wheelchairs, hearing and vision examinations, transportation to clinics, schools or work, convalescent or foster home care, special education recreation, social adjustment, vocational counseling, employment and special equipment.

Summer camping for the less severely handicapped is provided in cooperation with the YMCA and YWCA camps near Boone. Day camp programs for the severely handicapped are also set up in other centers.

A cerebral palsy project is sponsored by the group. The Spastic Club of Iowa for relatives of cerebral palsied children provides information, service and the facilities of a loan library. In Des Moines a demonstration cerebral palsy (spastic) school shows methods of treatment.

Who is eligible: Persons suffering from any of the following are eligible: congenital deformities, osteomyelitis, scoliosis, infantile paralysis, muscular dystrophy, diabetes, cerebral palsy, amputations, tuberculosis of the bone, arthritis, rheumatic fever, war injuries, defects of hearing, vision and speech, disabilities resulting from accidents of home, farm and industry.

Cost: No charge is made for services of the Society. Arrangements can be made to share expenses with families, local clubs and private or governmental agencies. Loans can be made at the request of families.

Where to apply: Applications for services or information should be addressed to Mrs. Dorothy Phillips, executive secretary, Iowa Society for Crippled Children and the Disabled, 400 Plymouth Bldg., Des Moines 9, Iowa. Referrals should include information showing the name of the handicapped person, his parents or guardian, birth date and address. A diagnosis of disability, limitations, medical care received, education, apparent need and availability of local resources should also be included.

Area: The Iowa Society services the entire state. Certain counties are organized to help persons in their area in accordance with state society policies. The entire organization is affiliated with the National Society for Crippled Children and Adults, Inc., Chicago.

DO YOU KNOW

The difference between the Taft and Wagner Health bills? The Taft bill would subsidize medical care through the state, one-third by the federal government and two-thirds by the state, for the needy only. The Wagner bill calls for compulsory insurance, and both bills, of course, aim at federal domination although the Taft bill is not as revolutionary as the Wagner bill.

TWENTY-FIVE STEPS TO LONGER LIFE

In 1946 the Ohio State Medical Association adopted an over-all plan to improve the general health of the citizens of the state. We quote from the objectives:

"The conviction is firmly held that the opportunity for everyone to achieve and enjoy good health is a goal that can surely be attained, provided there is full cooperation among the people, the government, unofficial agencies and members of the medical profession.

"Like charity, this program begins at home. It is an undertaking that each of us, as individuals, can do something about . . . in our homes, our businesses, our local organizations, our communities. Don't wait until something 'official' starts the ball rolling. Be a sparkplug and get things moving yourself. The over-all health of Ohio can be no better than that of the locality in which YOU live.

"First of all, familiarize yourself with each of these twenty-five proposals. They give you the basic problem, name the common enemies to better health and longer life. Then resolve to do your share to make this program a reality. That doesn't mean simply approving of the objectives. It means actually working to achieve them. You undoubtedly belong to at least one group. Enlist its aid in this program which touches the life of everyone deeply. Work together with your local health authorities. Cooperate with your doctor and county medical societies. To establish and maintain this undertaking probably will involve both financial and other responsibilities. Assume them gladly. Much of this can be accomplished through local and state responsibility, initiative and planning. In other words, the great state of Ohio and its prosperous communities can stand on their own feet."

The following suggested twenty-five steps provide a wealth of topical material for programs:

1. Sanitation
2. Rural Health
3. Malnutrition
4. Smoke Abatement

5. Health Education
6. Improved Housing
7. Medical Education
8. Industrial Health
9. Venereal Diseases
10. Hospital Facilities
11. Economic Improvement
12. Tuberculosis Control
13. Recreation Facilities
14. Physical Examinations
15. Communicable Diseases
16. Mental Disease Program
17. School Health Program
18. Care of Disabled Veterans
19. Prepaid Hospital Care Plans
20. Medical Care for the Needy
21. Prepaid Medical Care Plans
22. Cancer and Chronic Diseases
23. State Health Department Services
24. Rehabilitation of the Handicapped
25. Maternal and Child Health Services

BLUE SHIELD

Iowa Medical Service will now be publicized and popularly known as a Blue Shield plan. This follows adoption of that trade-name and an insignia by Associated Medical Care Plans, the national organization of approximately fifty voluntary non-profit medical care plans. Many of these plans are companion to the Blue Cross hospital service plan operating in the same area.

The Blue Cross and Blue Shield commissions are combined on a national level and, as was recently announced, Major General Paul R. Hawley will become chief executive officer for the two groups on April 1, at the conclusion of the Semi-Annual Conference, in Los Angeles.

Approximately 30,000,000 people are now enrolled in Blue Cross. In many areas a large majority of eligible residents belong to the local plan. Membership in Blue Shield plans is now at about 7,500,000—and rapidly growing.

In Iowa, the 73 counties in the Des Moines Blue Cross area had a total enrollment of 420,646, as of Dec. 31, 1947. Of this total 81,859, or about 41 per cent of the population of Polk County, are members.

Blue Shield (IMS) had a total enrollment in Iowa of 36,924 as of December 31; 12,986, or a little better than 6 per cent of Polk County residents, are members. These figures represent an increase of 246 per cent enrollment over a year ago.—*Bulletin*, Polk County Medical Society, February, 1948.

"Topping the early predictions of the council, enrollment figures for the Medical Society and Blue Cross sponsored Medical Care Plans give evidence of totaling 7,500,000 as of December 31, 1947. Here is the picture today:

More than 7,500,000 persons covered.

Over 50 per cent enrollment growth in 1947.

Over ninety voluntary plans in operation in forty-two states.

The remaining six states and the District of Columbia in the organization stage.

Sixteen plans increased over 100 per cent. Iowa Medical Service had an increase of 114.5."—*News Letter of Council on Medical Service, A.M.A.*, March 15, 1948.

STATISTICAL HIGHLIGHTS OF THE ANNUAL MEETING

There are 2,600 doctors in Iowa with a 100 per cent organization of county medical societies. There are only 640 doctors' wives who belong to the Auxiliary.

Eight counties were organized during the past year. Mahaska, Warren, Emmet, Delaware and Henry Counties were newly organized; Cass, Pottawattamie, and Upper Des Moines were re-organized. There were fifteen organized counties in April, 1947; twenty-three in April, 1948. There are seventy-four counties without Auxiliaries.

The new by-laws with the recommended amendments were unanimously accepted in convention. County Auxiliaries will benefit by the election of five councilors and three directors who will assist state and county officers in the section of the state which is assigned to them. Dues were raised to \$2; \$1 will go to the National Auxiliary and \$1 to the State to carry on programs on those levels.

The total receipts of the Nurses' Loan Fund for 1947-48 were \$592. At the time of report, there was \$367.95 on hand.

County Auxiliaries are urged to incorporate programs on the following themes in their year's work:

1. Nurse Recruitment
2. Nurses' Loan Fund; maintain a revolving fund, if possible, by voluntary donation of 50c per member.
3. Socialized Medicine
4. Cancer
5. Work for Handicapped

Newly elected officers are: Mrs. A. G. Felter, Van Meter, president; Mrs. C. A. Nicoll, Panora, president-elect; Mrs. R. M. Minkel, Fort Dodge, first vice president; Mrs. L. A. Coffin, Farmington, second vice president; Mrs. C. A. Maxwell, Sioux City, secretary; Mrs. M. A. Royal, Des Moines, treasurer. Councilors are Mrs. Fred Moore, Des Moines; Mrs. S. S. Westly, Manly; Mrs. J. C. Decker, Sioux City; Mrs. W. A. Seidler, Jamaica; Mrs. M. C. Hennessy, Iowa City. Directors are Mrs. M. H. Brinker, Jefferson;

Mrs. J. E. Dyson, Des Moines; Mrs. J. F. Veltman, Winterset.

A formal report of the annual meeting will appear in the next issue of the Woman's Auxiliary News and all other formal reports will appear in succeeding issues.

Mrs. K. M. Chapler,
Chairman Publications.

LINES FROM THE PRESIDENT

The annual convention is over; the work for the year 1948-49 is launched. In making me president you have expressed your confidence in me which I appreciate. I enter upon the work with a deep sense of the responsibility which the office carries.

My predecessors, through years of work and thoughtful planning, have left a clear-cut pattern and a challenging program. I feel especially indebted to Mrs. Fred Moore, our immediate past president, who has so kindly kept me in close contact with the work of the various committees from which I have gained a sense of direction for the year ahead. Also I appreciate the willingness of members throughout the state to serve on committees, thus attesting to their faith in the Auxiliary and their desire to see its work go forward. I am sure of it, and I believe you will accept the statement, that ALONE I can do nothing constructive; that ALONE the executive committee can accomplish very little, but that with the help of you doctors' wives, ALL OF US WORKING TOGETHER, we can accomplish almost any assumed task.

It is evident from the fine reports coming from various committees and county presidents that the Auxiliary is taking on new life and expressing itself with new energy. Read these reports carefully and you will realize that the past year has been a progressive one. We must pick up the work where it is left off if we are to promote, as they deserve, our several projects and public relations activities. Ours must be a forward looking program.

This is a challenging period for the medical profession, and a time just as challenging to doctors' wives. If we are to assist in the field of public relations as we are urged to do, we must know the profession's viewpoint regarding legislation and health matters. It seems imperative that we dedicate a little of our time to the work of the Auxiliary. If you have no county auxiliary and have neglected to join as member-at-large, do so now. The fee is \$2 payable to Mrs. M. A. Royal, treasurer, 1138 37th Street, Des Moines. Better yet, contact doctors' wives in your county, plan a long overdue get-together — a tea or dutch luncheon — and talk about organization.

The projects and aims for this year will appear in print next month, and the plans of the committees will come to you as they are formulated.

Let us pull together for a year of progress!

Mrs. Allan G. Felter,
President.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

ADVANCES IN MILITARY MEDICINE—Made by American investigators working under the sponsorship of the Committee on Medical Research. Edited by E. C. Andrus, D. W. Bronk, G. A. Carden, Jr., C. S. Keefer, J. S. Lockwood, J. T. Wearn, M. D. Winternitz. Associate Editor—Tuckerman Day. Foreword by Alfred N. Richards. Volumes I and II. An Atlantic Monthly Press Book. Little, Brown and Company, Boston, 1948. Price, \$12.50.

BRIEF PSYCHOTHERAPY: A Handbook for Physicians on the Clinical Aspects of Neuroses—By Bertrand S. Frohman, M.D., with the collaboration of Evelyn P. Frohman. Foreword by Walter C. Alvarez, M.D. Lea & Febiger, Philadelphia, 1948. Price, \$4.

CLINICAL TOXICOLOGY—By Clinton H. Thienes, M.D., Ph.D., Professor of Pharmacology and Head of the Department of Pharmacology and Toxicology, School of Medicine, University of Southern California, Los Angeles; Attending Pathologist (Toxicology), Los Angeles County Hospital; and THOMAS J. HALEY, Ph.D., Fellow in the Department of Pharmacology and Toxicology, School of Medicine, University of Southern California; Formerly Graduate Assistant in Pharmacology, University of Florida, and formerly Medical Director of E. S. Miller Laboratories, Los Angeles. Second edition. Lea & Febiger, Philadelphia, 1948. Price, \$4.75.

HEART: A PHYSIOLOGIC AND CLINICAL STUDY OF CARDIO-VASCULAR DISEASES—By Aldo A. Luisada, M.D., Instructor in Physiology and Pharmacology, Tufts College Medical School, Lecturer in Medicine; Lecturer, Postgraduate Division, Tufts College Medical School; Associate in Medicine, Beth Israel Hospital, Boston, Mass.; Former Professor of Medicine, Ferrara, Italy. With a foreword by Herrman L. Blumgart, Physician-in-Chief, Beth Israel Hospital; Professor of Medicine, Harvard Medical School. The Williams and Wilkins Company, Baltimore, 1948. Price, \$10.

A MANUAL OF CLINICAL THERAPEUTICS: A GUIDE FOR STUDENTS AND PRACTITIONERS—By Windsor C. Cutting, M.D., Professor of Therapeutics, Stanford University School of Medicine, San Francisco, Calif. Second edition, W. B. Saunders Company, Philadelphia, 1948. Price, \$5.

A MANUAL OF PHARMACOLOGY AND ITS APPLICATIONS TO THERAPEUTICS AND TOXICOLOGY—By Torald Sollmann, M.D., Professor Emeritus of Pharmacology and Materia Medica, School of Medicine, Western Reserve University, Cleveland. Seventh edition, W. B. Saunders Company, Philadelphia, 1948. Price, \$11.50.

MODERN COSMETOLOGY—By Ralph G. Harry, F.R.I.C., Certificate of the Royal Institute of Chemistry and Microscopy of Foods, Drugs and Waters, Pharmacognosy, Pharmacology and Therapeutics. Head of the Cosmetic Department, Beecham Research Laboratories, Ltd.; formerly Manager of Toilet Preparations Research Laboratory, Messrs. Lever Brothers & Unilever, Ltd. With a foreword by P. B. MUMFORD, M.D., F.R.C.P., Hon. Dermatologist, the Manchester Royal Infirmary; Hon. Consulting Physician, the Christie Cancer Hospital and Holt Radium Institute; Hon. Physician, Manchester and Salford Skin Hospital. Third revised edition. Chemical Publishing Co., Inc., Brooklyn, 1947. Price, \$12.

PSYCHIATRY FOR THE PEDIATRICIAN—By Hale F. Shirley, M.D., Associate Professor of Pediatrics and Psychiatry, Executive Director of the Child Psychiatry Unit, Stanford University School of Medicine. The Commonwealth Fund, New York, 1948. Price, \$4.50.

PSYCHOBIOLOGY AND PSYCHIATRY—A Textbook of Normal and Abnormal Behavior—By Wendell Muncie, M.D., Practicing Psychiatrist; Chairman, Medical Advisory Board, Seton Institute, Baltimore, Md.; Associate Professor of Psychiatry, Johns Hopkins University; Consultant in Psychiatry, U. S. V. A. Second edition. The C. V. Mosby Company, St. Louis, 1948. Price, \$9.

TREATMENT BY DIET—By Clifford J. Barborka, B.S., M.S., M.D., D.Sc., F.A.C.P., Assistant Professor of Medicine, Northwestern University Medical School, Chicago; Attending Physician, Passavant Memorial Hospital; Consultant in Gastro-enterology and Gastroscopy, Diagnostic Center, Hines Veterans Hospital; Formerly Consulting Physician, The Mayo Clinic. Fifth edition. J. B. Lippincott Company, Philadelphia, 1948. Price, \$10.

TREATMENT IN GENERAL PRACTICE—By Harry Beckman, M.D., Professor of Pharmacology, Marquette University School of Medicine, Milwaukee, Wisconsin. Sixth edition, W. B. Saunders Company, Philadelphia, 1948. Price, \$11.50.

BOOK REVIEWS

ADVANCES IN MILITARY MEDICINE

Made by American investigators working under the sponsorship of the Committee on Medical Research: Edited by E. C. Andrus, D. W. Bronk, G. A. Carden, Jr., C. S. Keefer, J. S. Lockwood, J. T. Wearn, and M. C. Winternitz, Associate Editor, Tuckerman Day. Foreword by Alfred N. Richards. First edition. Little, Brown, and Company, an Atlantic Monthly Press Book, Boston 1948. Price, two volumes, \$12.50.

Advances in Military Medicine is written in two volumes as a result of the efforts of outstanding scientists, physicists and physicians throughout the United States. These men were called upon by the Office of Scientific Research and Development during World War II to develop methods, chemicals, drugs, etc., to fight diseases and injuries which may result from war under any climatic condition existent on the face of the earth.

The texts cover the acute infectious diseases, venereal and tropical diseases. There are chapters in psychiatry and convalescence and the development of

a formula for measuring the progress during convalescence as an aid to determine duty status.

The surgical portion of the book includes coverage of wound infection prevention, care of soft tissue wounds, use of penicillin and sulfa preparations, and experimental wound healing.

As a result of extensive research in the field of prosthesis and appliances, many great advances were made in mechanical improvements with the development of many new innovations of turning movements for the wrist and hand of prosthesis fitted for below the elbow amputee. Also, a locking type mechanism, which would lock in any position, of the elbow joint for arm amputees was perfected.

The problem of gas gangrene was thoroughly investigated with the hopes of development of a method of immunization by the injection of toxoid as a preventive measure.

Chapters covering the treatment of burns, repair of peripheral nerve lesions, studies on concussion, frostbite, trench feet, and the development of hemostatic agents are interesting and informative.

The studies of wound ballistics and aviation medi-

cine including crash injuries, visual studies, motion sickness, effects of acceleration, and the use of oxygen are covered thoroughly.

In Volume II the following subjects are discussed and advances made in research are presented: (1) problems of nutrition, acclimatization to heat and cold, water disinfection and protective clothing; (2) chemical warfare agents; (3) anti-pest agents, including the use and development of DDT; (4) adrenocortical steroids; (5) malaria and the testing and development of new anti-malarial agents; (6) complete discussion on penicillin; (7) sensory devices, especially the partial development of the reading machine and a guidance device for the blind.

These two volumes represent a complete and broad coverage of many important subjects which has and will continue to contribute to the health and welfare of the military forces as well as the private citizen.

L. T. P.

EXPERIENCES WITH FOLIC ACID

By Tom D. Spies, M.D., Associate Professor of Medicine, University of Cincinnati School of Medicine, Director of the Nutrition Clinic, Hillman Hospital, Birmingham, Alabama. The Year Book Publishers Inc., Chicago, 1947. Price, \$3.75.

Dr. Spies presents in this monograph a brief history of the investigations in the study of anemia and how he decided to use folic acid in this study. He reported the response of 218 cases of anemia which received folic acid. These included addisonian pernicious anemia, tropical sprue, pellagra and other macrocytic anemias. Many of the cases are reported in detail. Differential diagnosis of macrocytic anemias is well presented. To one interested in the study of folic acid, this well written report summarizes the status of this new vitamin, to the date of publication.

A. L. J.

THE FOOT AND ANKLE

Their Injuries, Diseases, Deformities and Disabilities — By Philip Lewin, M.D., F.A.C.S., Associate Professor of Bone and Joint Surgery, and Acting Head of Department, Northwestern University Medical School; Professor of Orthopedic Surgery, Postgraduate Medical School of Cook County Hospital; Attending Orthopedic Surgeon, Cook County Hospital; Consulting Orthopedic Surgeon, Municipal Contagious Disease Hospital, Chicago; formerly Colonel, Medical Arts Corps, Army of United States; Senior Attending Orthopedic Surgeon, Michael Reese Hospital. Third edition. Lea & Febiger, Philadelphia, 1947. Price, \$11.

This is the third edition of a monograph which has established Dr. Lewin as an authority on the ankle.

The volume is enhanced by extensive revisions which bring up to date concepts of etiology, diagnosis and treatment. The textbook is highly recommended to all physicians and medical students for authoritative advice regarding the foot and ankle.

E. M. G.

GYNECOLOGICAL AND OBSTETRICAL UROLOGY

By Houston S. Everett, A.B., A.M., M.D., Associate Professor of Gynecology, the Johns Hopkins University, and Associate in Gynecology, the University of Maryland, and Gynecologist in Charge of the Cystoscopic Clinic, the Johns Hopkins Hospital. Visiting Gynecologist, the Church Home and Hospital, the Hospital for the Women of Maryland, and the Union Memorial Hospital. Second edition. The Williams & Wilkins Company, Baltimore, 1947. Price, \$6.

This book clearly presents the correlation of these closely associated fields. Beginning with excellent chapters on anatomy and physiology of the urinary system, Dr. Everett then gives a comprehensive discussion on how the normal anatomy and physiology are altered in pregnancy and in various gynecologic conditions. The prevention of urinary tract injuries in obstetric and gynecologic procedures is stressed throughout the book, but corrective procedures are well described should injuries occur. Of particular interest to those interested in vaginal plastic procedures is the chapter entitled "Incontinence of Urine." A new feature in the second edition of this book is an excellent section on indirect cystoscopy. The chapters on infections of the urinary tract are especially comprehensive. All chapters are fully treated and the book is very well and profusely illustrated.

H. K. S.

1947 YEAR BOOK OF ORTHOPEDICS AND TRAUMATIC SURGERY

Edited by Edward L. Compere, M.D., F.A.C.S., Associate Professor of Surgery, Northwestern University Medical School; Chairman, Departments of Orthopedic Surgery, Wesley Memorial and Children's Memorial Hospitals; Consultant Orthopedic Surgeon, Chicago Memorial Hospital; Consultant in Orthopedics, U. S. Naval Hospital, Great Lakes, Illinois. The Year Book Publishers, Inc., Chicago, 1947. Price, \$3.75.

Under the editorship of Edward L. Compere, this year book again is a compilation of the important advances in the field of orthopedic and traumatic surgery. The material is well organized, liberally illustrated, and deserves a place in the library of all physicians interested in this type of work.

E. M. G.

SOCIETY PROCEEDINGS

MEETINGS

Black Hawk County

The regular meeting of the Black Hawk County Medical Society was held at the Elk's Club April 13 at 6:30 p. m. Dr. Nathan A. Womack, head of the Department of Surgery of University Hospitals, Iowa City, spoke on "Etiology of Cholecystitis."

Dubuque County

Dr. J. T. Dickenson of Iowa City was guest speaker at the February meeting of the Dubuque County Medical Society. He discussed Dr. Lempert's fenestration technic, illustrating the talk with a technicolor film. At the March meeting the Society heard Dr. Walter D. Abbott of Des Moines discuss "Low Back Pain." On April 13 Dr. Otto F. Kraushaar and Dr. Willis E. Brown of Iowa City presented a paper entitled "The Papanicolaou Test in the Cancer Control Program."

Fayette County

The Fayette County Medical Society, in conjunction with Allamakee and Clayton Counties, held its monthly meeting at Postville on March 9. After a 7 p. m. dinner, thirty-three members and guests heard Dr. Wallace A. Merritt of the Mayo Clinic discuss "Neglected Signs and Symptoms." It was announced that the next county meeting will be held at Pine Lodge, Oelwein, following participation of the members in the Crippled Children's Clinic to be held at Mercy Hospital, Oelwein.

Johnson County

The Johnson County Medical Society met at Hotel Jefferson, Iowa City, April 7 for dinner and a business meeting. Dr. N. A. Womack of the University Hospitals spoke on "Biopsy of the Liver," and Dr. E. L. DeGowin, also of the University, opened the discussion.

Sac County

The monthly meeting of the Sac County Medical Society was held March 17 at the Brewer Hotel, Odebolt. Nine doctors and their wives were present.

Scott County

At a meeting of the Scott County Medical Society held at the Lend-a-Hand Club, Davenport, April 6, plans were made for the listing of doctors willing to make emergency night calls. Dr. H. M. Korns of Dubuque presented a paper on "Management of Peripheral Vascular Diseases."

Wapello County

Dr. William N. Whitehouse was elected president of the Wapello County Medical Society at a regular business session of the organization held April 6. Other officers named to serve were Dr. C. L. Worley, vice president, and Dr. E. B. Hoeven, secretary-treasurer.

Washington County

The Washington County Medical Society held its monthly meeting in the Nurses' Home, Washington, March 26. Dr. W. C. Keettel, of the State University of Iowa College of Medicine, gave an illustrated lecture on the "Rh Factor in Caring for Expectant Mothers."

Woodbury County

At a meeting of the Woodbury County Medical Society, held in the Martin Hotel, Sioux City, March 18, Dr. Nathan A. Womack of the Department of Surgery, State University of Iowa College of Medicine, spoke on "Indication for Surgery in Cholecystitis."

PERSONALS

Dr. Edward J. Ahmann, a graduate of the State University of Iowa College of Medicine with the class of 1945, has entered the practice of medicine with Dr. Leslie V. Schroeder of Walcott. For the past nineteen months he has been serving with the United States Army, having been stationed at Yokohama, Japan, for five months.

Drs. Anneberg and Martin, consisting of Drs. Walter A. Anneberg, A. Reas Anneberg, Paul D. Anneberg and J. B. Martin, and the Carroll Clinic, consisting of Drs. W. L. McConkie and Paul Pascoe, recently announced the formation of a new medical group to be known as the Carroll Medical Center. The doctors plan to enlarge the staff as soon as possible.

Dr. William B. Bean has been named Professor of Medicine and new Head of the Department of Internal Medicine at the State University of Iowa. He is now Associate Professor in Medicine at the University of Cincinnati. Dr. Bean will come to Iowa about September 1.

Dr. Willard C. Brinegar, now acting superintendent of the New Hampshire State Hospital, has been appointed superintendent of the State Hospital at Cherokee by the state board of control. He will begin his work May 1, replacing Dr. A. Soucek who re-

signed to become superintendent of a Wisconsin state hospital.

Dr. Donald C. Conzett of Dubuque represented the Iowa State Medical Society at a two day meeting of the Council on National Emergency Medical Service of the American Medical Association in Chicago April 5 and 6. His report may be found in the editorial section of this issue.

Dr. Charles H. Cretzmeyer of Algona spoke on "Community Health" at the Annual Rural Woman's Day meeting held in that city March 29.

Dr. George F. Fieselmann became the partner of Dr. Clare C. Jones of Spencer in the practice of medicine and surgery on March 22. He received his medical degree from the State University of Iowa College of Medicine and for the past two years has served in the army medical corps.

Dr. John G. Grant, head of the staff at the Iowa State College Hospital, Ames, gave a talk on cancer at a meeting of the Hardin County Rural Teachers Club held in Hubbard March 23.

Dr. Arthur M. Harwood, who has been associated with Dr. F. C. Perkins in Hedrick the past two years, plans to locate in Sigourney in the near future. Dr. Harwood completed his medical education at the State University of Iowa College of Medicine in 1943.

Dr. E. Clifford Heinmiller of New Hampton has located in Fort Madison where he is serving as general practitioner and assistant surgeon with Drs. Robert L. Feightner and Harold T. Werner.

Dr. Felix A. Hennessy of Calmar was recently elected president of the executive committee of the Iowa Tuberculosis Association.

Dr. Lee Forrest Hill of Des Moines spoke at the annual Woman's Club banquet in Perry April 6. He discussed the care of children under two years of age.

Dr. Leonard J. Hospodarsky of Ridgeway has been appointed medical rating specialist with the civil service and will report for duty with the Veterans Administration May 31. With the exception of four and one-half years in military service, Dr. Hospodarsky has practiced in Ridgeway since 1935.

Dr. Hanley F. Jenkins, a graduate of the State University of Iowa College of Medicine with the class of 1946, has announced his intention to begin practice in Ogden July 1. He will complete his appointment in City Hospital, St. Louis, in June.

Dr. Dean M. Lierle of Iowa City was recently elected to the vice presidency of the American Laryngological, Rhinological and Otological Society.

Dr. Harold W. Morgan of Mason City spoke on cancer at a meeting of the Hancock County Chapter of the American Cancer Society on April 8.

Dr. Cornelius B. Murphy of Alton addressed the Lion's Club of that city on the subject of heart diseases March 29. He illustrated his talk with slides.

Dr. Robert Porter of Des Moines spoke on the importance of sexual adjustment in marriage at the Y. W. C. A. April 7. It was one of a series of "Marriage for Moderns" lectures.

Dr. Erwin C. Sage of Burlington, director of the Des Moines County Health Unit, has accepted the position of Assistant Public Health Director in San Francisco. Dr. Sage has been in Burlington since 1937, with the exception of his period of service in the armed forces.

Dr. Mayo Hamilton Soley has been appointed dean of the College of Medicine at the State University of Iowa according to announcement by President Virgil M. Hancher. Dr. Soley, who is now Professor of Medicine and Assistant Dean at the University of California Medical School, will assume his duties on or before July 1.

Dr. Adolph Soucek, acting superintendent of the Cherokee State Hospital, has resigned effective May 1 to become assistant superintendent of the state hospital in Madison, Wisconsin.

Dr. Irving Sternhill of Mason City spoke to the Palo Alto County Chapter of the American Cancer Society at an organization meeting March 14.

Dr. J. E. Swegart, now serving with the navy, will enter partnership in the practice of medicine with Dr. Frederick J. Swift, Jr., of Maquoketa, in the near future. He will assist Dr. Swift in the general practice of medicine and surgery at Maquoketa Hospital.

Dr. Hillard A. Tolliver of Charles City spoke on the cost of medical care to the Woman's Club of Greene March 16.

Dr. Lawrence B. Williams, a recent graduate of the State University of Iowa College of Medicine, will be associated with Dr. Seward White of Olin for the next three months. In late June, he plans to go to Cleveland where he will serve as intern in Cleveland City Hospital.

Dr. James J. Young and family recently moved to Clinton from Chicago. Dr. Young, a graduate of Loyola University School of Medicine, has opened offices for the practice of medicine. He practiced in Chicago eighteen months before coming to Clinton.

DEATH NOTICES

Colleston, Charles Chapman, aged 62, of Spencer died April 11 at his home. A graduate of the Jefferson Medical College of Philadelphia with the class of 1909, Dr. Colleston had practiced in Spencer thirty-five years. He was a member of the Clay County and Iowa State Medical Societies.

Lytle, Carl Carruth, aged 68, of Dubuque, died March 18 at his home. He was graduated from the Drake University College of Medicine, Des Moines, in 1903, following which he practiced in Lansing. Upon return from service in World War I, Dr. Lytle located in Dubuque. He was a member of the Dubuque County and Iowa State Medical Societies.

Page, Addison Carey, aged 73, formerly of Des Moines, died April 14 at the home of his daughter in Mason City. Dr. Page, who had practiced in Des Moines from 1902 until the time of his retirement two years ago, was a graduate of the University of Illinois College of Medicine, Chicago, with the class of 1898. He was a life member of the Cerro Gordo County and Iowa State Medical Societies.

Tomkins, Erle Duncan, aged 72, of Clarion, died March 25 at his home. He was graduated from the University of Pennsylvania School of Medicine in 1899 and had practiced in Clarion since then. Dr. Tomkins was a member of the Wright County and Iowa State Medical Societies.

STATEMENT OF THE PRESENT POLICY OF
THE AMERICAN TRUDEAU SOCIETY
ON BCG VACCINATION

(Report submitted to the ATS Executive Committee at its meeting in Chicago January 22, 1948, by Dr. H. McLeod Riggins, New York, N. Y., chairman of the Chemotherapy Committee, and adopted by the Executive Committee.)

The members of the Society and other physicians in the United States have been interested for many years in the active immunization against tuberculosis with BCG. The expansion of public health activities in the field of tuberculosis control by official and voluntary agencies and the acquisition of new knowledge concerning immunity in tuberculosis have prompted the American Trudeau Society to make the following observations and recommendations:

I. BCG vaccine, prepared under ideal conditions and administered to tuberculin negative persons by approved techniques, can be considered harmless.

II. The degree of protection reported following vaccination is by no means complete nor is the duration of induced relative immunity permanent or predictable. The need for further basic research on the problem of artificial immunization against tuberculosis is recognized and is to be emphasized. Studies should be directed: (a) toward the improvement of

the immunizing agent, (b) to the development of criteria for vaccination and re-vaccination and (c) to determine more accurately which groups in the general population should be vaccinated. Several well controlled studies are underway at the present time and it is expected that others will begin within the near future.

III. On the basis of studies reported in the European and American literature, an appreciable reduction in the incidence of clinical tuberculosis may be anticipated when certain groups of people who are likely to develop tuberculosis because of unusual exposure, inferior resistance, or both, are vaccinated.

A. In the light of present knowledge vaccination of the following more vulnerable groups of individuals is recommended provided they do not react to adequate tuberculin tests.

1. Doctors, medical students and nurses who are exposed to infectious tuberculosis.

2. All hospital and laboratory personnel whose work exposes them to contact with the bacillus of tuberculosis.

3. Individuals who are unavoidably exposed to infectious tuberculosis in the home.

4. Patients and employees of mental hospitals, prisons and other custodial institutions in whom the incidence of tuberculosis is known to be high.

5. Children and certain adults considered to have inferior resistance and living in communities in which the tuberculosis mortality rate is unusually high.

B. Vaccination of the general population is *not* recommended at this time except for carefully controlled investigative programs, which, as a rule, will be best carried out under the auspices of official agencies such as the U. S. Public Health Service, state and municipal health departments and other especially qualified groups.

IV. BCG vaccine should not be made available for general distribution in the United States at this time because: (a) the most effective strain of BCG has not been agreed upon nor has fully satisfactory standardization of the vaccine been achieved, (b) the best qualified experts have not agreed as to the most effective method of vaccination and (c) fully satisfactory arrangements have not been perfected for transportation and storage of the vaccine.

The vaccine should be prepared only in accredited laboratories especially devoted to this task, in which virulent tubercle bacilli are not cultivated or handled and in which all other possible precautions are exercised to assure safety and quality of the product.

Adequate record systems should be devised for management of the statistical problems involved in recording and following large numbers of vaccinated people. These and other problems of particular importance are now being studied on an extensive scale by official and voluntary agencies in the United States and in close collaboration with European scientists experienced in this field.

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ENDOMETRIOSIS

Roland S. Cron, M.D., Milwaukee, Wis.

Endometriosis and adenomyosis are two of the most common lesions found during laparotomy in the pelvic cavity of women between the ages of 25 and 45 years. Although these terms, along with that of chocolate cyst formation, have frequently been used synonymously, each is a definite entity. Endometriosis pertains to the mature functioning endometrium found in ectopic locations while adenomyosis is an endometrial-like gland tissue located deep in the uterine wall. This endometrial-like tissue may extend beyond the uterus and is not necessarily connected with the endometrium of the uterine cavity. Chocolate cyst formation may be the end result of an endometriosis involving the ovary, but such cysts are also frequently the result of follicle or corpus luteum hematoma formations and occasionally develop into cystadenoma of the ovary.

Many theories have been offered to explain the production of endometriosis. The one advanced by Sampson entitled the transtubal implantation satisfactorily explains the production of the majority of cases in which the endometriosis involves the pelvic organs. During menstruation blood and endometrial tissue may pass out through the tubes into the peritoneal cavity. That the endometrial tissue regurgitated through the tube is alive was satisfactorily proved when the author obtained, by means of a pipette, menstrual debris which Guy successfully cultured. That the pipette might have detached the mucosa was considered a possibility. Subsequently material was obtained from an extirpated menstruating uterus and this, too, was successfully grown. From this experience as well as others of a similar nature, ample proof has eventually accumulated to prove that the Sampson theory is a logical one. This issue, after becoming implanted in its new site continues to function as endometrium and in time menstruates. Small blood cysts form and with menstruation

leakage occurs with the development of adhesions to the surrounding structures. The leakage and growth continue forming dense adhesions throughout the pelvis with frequent chocolate cyst formation in the ovary and occasional interference in physiologic activity of any involved viscus such as the intestine, bladder or ureter.

That this theory for the development of endometriosis does not explain the mode of development of all such lesions is an accepted fact, for endometriosis appears in many locations where the spill from the fallopian tubes could not have reached. Many authors believe that heteroplasia of the serosa or celomic epithelium may occur. This theory of the origin of endometrial cysts of the ovary is based on the embryologic fact that the lining mucosa of the müllerian canal, as well as the germinal epithelium covering the ovary and the pelvic peritoneum, are derived from the same parent tissue. These may become differentiated and take on the characteristics of functioning endometrium. This would explain the appearance of endometriosis in distant organs such as the umbilicus and round ligament. An additional theory is based upon the evidence that endometrial tissue may reach its ectopic site through the blood stream or lymph channel. Bits of viable endometrium have been demonstrated circulating in these spaces.

Endometriosis has also been found in the intestinal tract, anterior abdominal wall following laparotomy, and in the perineum following the repair of birth lacerations or episiotomy. These may be the result of mucosal outgrowths from the müllerian system or are frequently direct implants from the invaded uterine cavity by hysterotomy, hysterectomy or cesarean section. The perineal tumors are probably decidual transplants.

During more recent years the medical profession has been forced to become endometriosis conscious. Although at one time the disease was considered to be one found only in women in the thirties or forties, recently cases have been reported in children as young as 13 years. In a

group of 184 laparotomized patients, about 4 per cent showed endometriosis during the teen age. The disease tends to occur about five years after the onset of menses. If pregnancy occurs early in life, endometriosis is most uncommon. Delayed marriage or the practice of contraception seems to be conducive to its development. Families of one or two children are the rule with this disease.

Obtaining a detailed and careful history is the most essential part of the diagnostic procedure used in recognizing this lesion. Often it is necessary to question the patient carefully in regard to particular symptoms, and on that history and with negative palpatory findings a correct diagnosis may be made. One of the most common symptoms is that of colicky dysmenorrhea which may have had its onset with puberty but has become progressively more severe. At least 50 per cent of the patients operated upon for pelvic endometriosis complained of progressively severe dysmenorrhea. A multipara, previously free of dysmenorrhea, who later develops this symptom, should suggest to the physician the diagnosis of endometriosis. It is common for the menstrual discomfort to be characterized as a backache extending to the posterior part of the pelvis, thighs and lower legs. Dyspareunia has been a complaint in from 60 per cent to 70 per cent of the patients. Unexplained sterility is a most common complication. Pelvic discomfort during automobile rides or horse back riding, or even on sitting down is likewise a common complaint. Bowel disturbances such as nausea, constipation or diarrhea with gas pains and pain in the rectum on defecation or the passing of gas, especially at the time of the menses, should suggest lower bowel endometriosis. Blood in the urine or stool at the time of menstruation otherwise unaccounted for also suggests the invasion of one of these two tracts by endometrial tissue.

Symptoms of the appearance of pelvic inflammatory disease in a woman over 35 years of age and the palpation of fixed pelvic organs is much more characteristic of endometriosis than of pelvic inflammatory disease. There may be no history of disability or complaint of dysmenorrhea in spite of the fact that examination shows a marked lesion with extensive fixation. On the other hand, the symptoms may be most pronounced and the palpable lesion minimal. The important feature is that the pain frequently bears no definite relation to the size of the mass. This is especially true in white women. On the other hand, fixed pelvic structures in the colored woman is much more likely to be due to chronic pelvic inflamma-

tory disease, for endometriosis is rarely found in the Negro.

The combination of a rectovaginal examination has aided greatly in increasing our percentage of correct diagnoses. The palpation of a tender nodule through the posterior cul-de-sac, or better, through the anterior rectal wall, is almost pathognomonic of the disease. Retrodisplacement of the uterus is found in a large portion of cases, and some authorities believe that retroversion or retroflexion with its obstructive mechanism to the discharge of menstrual flow may be a factor in the development of endometriosis. The appearance of blue dome cysts in the posterior fornix of the vagina so frequently found on visualization are characteristic of the disease. Proctoscopic examination will show normal rectal mucosa except when the peritoneal endometriosis has involved the mucosa. Then hemorrhagic areas may appear with bleeding at the time of menstruation.

Often it is necessary to differentiate endometriosis from carcinoma. In carcinoma, proctoscopic examination will show a defect in the mucosa. Likewise, with involvement of the bladder by the endometrial growth, cystoscopic investigation may show characteristic small blood cysts in the bladder wall. Here, too, the disease must be differentiated from carcinoma. In addition, pelvic endometriosis must be differentiated from pelvic tuberculosis and ectopic gestation. The latter condition not infrequently develops upon endometrial transplants in the posterior cul-de-sac, ovary or tube. These areas of endometriosis may act as a site for nidation of the fertilized ovum. The endometrial tissue in such cases shows characteristic changes of pregnancy, decidual cells and chorionic villus development. Untreated endometriosis is rarely a fatal disease. The most serious complication is partial obstruction to bowel, intestine or ureter, and infection of malignant degeneration of an ovarian endometrial cyst.

The treatment of pelvic endometriosis may be divided into: (1) prophylactic, (2) surgical, (3) hormonal, and (4) radiation. Theoretically, bimanual examination should not be performed at the time of menstruation for fear of forcing menstrual tissue out into the tubes. If the uterus is palpated at that period it should be done with gentleness. Cervical dilatation with a solid Hegar dilator may, by its piston-like action, force material through the tube. A much wiser procedure is to substitute either the hollow Hegar dilators or to use one of the Goodall glove stretcher type.

Tubal insufflation or utero-salpingography should always be deferred until menstruation is completed and should never be done following

curettage. Davis and the author have reported a case of early peritoneal endometriosis resulting from a transuterine insufflation. Subsequent investigation by laparotomy of this patient showed evidence of endometrial-like tissue growing in the region of the sacro-uterine ligaments where the probable spill of menstrual fluid had taken place at the time of the insufflation. Acute antelexion and posterior displacement of the uterus, contrary to the opinion of some authors, should, in the writer's opinion, be corrected. Dysmenorrhea in the patient with a congenital retroversion suggests obstruction to the discharge of menstrual flow. This should call for correction by round ligament suspension of the uterus. Cervical stenosis should be relieved by dilatation. Postoperative endometriosis of the abdominal wall may be prevented by avoiding such operative procedures as ventral fixation of the uterus, and endo-salpingosis may be avoided by removing the uterus when bilateral salpingectomy is done.

Pregnancy during the early years of marriage should be encouraged, for rarely does endometriosis develop in the woman who has borne many children. Pregnancy, too, is conducive to the improvement of the pelvic structures following operation for pelvic endometriosis.

Surgical treatment of peritoneal endometriosis should be conservative. Formerly radical operation consisting of complete ablation of the ovaries with hysterectomy was considered necessary. Fortunately for women in the active child bearing period a more conservative practice has developed resulting in an attempt by most operators to conserve enough ovarian tissue so that future child bearing is possible. This should be routine practice in early and borderline cases. Frequently a minimal amount of ovarian tissue will be found sufficient to produce normal ovulation and menstrual function. Small lesions can be excised, destroyed by the cautery or may be ignored, while the small implants on the intestines are best left alone. Conservative management of this type of borderline case may call for subsequent operation. Appendiceal endometriosis, of course, calls for the removal of that organ. Great care must be exercised with the surgery of extensive endometriosis of the bowel, for rectovaginal fistula or pelvic peritonitis may result.

Extensive involvement of the rectovaginal septum with obstruction of the lower bowel does not require radical resection of that organ. Castration by surgical extirpation of the ovaries or destruction of those organs by radiation will result in restoration of complete function of the bowel. The vaginal approach as an avenue of treatment

has been found most satisfactory for the removal of endometrial nodules from the posterior fornix of the vagina, posterior cul-de-sac and sacro-uterine ligaments. This approach has also been used by some operators for treatment of minimal lesions in the ovaries. Some authors have combined presacral neurectomy when conservative surgery has been performed. Endometriosis nodules of the umbilicus, abdominal and bladder walls are best treated by excision. Most of these lesions and those also developing in the perineum are discrete nodules and can be easily excised. X-ray or radium therapy are not necessary, and certainly castration should not be considered.

Hormonal: Reactivation of endometrial growth by the administration of estrogenic hormones following castration is warned against. Lesions which were controlled by destruction of the ovaries, if stimulated by estrogens or estrogenic-like substances, may produce symptoms of which the patient previously complained. Instead, the male hormone should be administered to relieve these menopausal symptoms. Daily doses of 10 mg. of one of the androgenic substances is usually sufficient. Androgenic substances can also be used for the temporary relief of symptoms in active endometriosis. Sufficient androgens may inhibit ovarian activity, thereby preventing swelling and associated pressure pain. Care must be taken that pronounced masculinization does not take place. Should such symptoms appear, discontinuation of the androgenic therapy results in complete reversal of these symptoms.

Radiation Therapy: Surgery is the treatment of choice in intraperitoneal endometriosis. It affords an opportunity to conserve uterine and ovarian function. However, radiation may be used in the postoperative patient who has experienced an incomplete surgical castration. X-ray therapy can also be used for the patient who is a poor surgical risk and in the treatment of recurrences following conservative surgery. The menopausal symptoms resulting from x-ray castration are often much more pronounced. Therefore, surgical ablation is much preferred. There is always the possibility that a small amount of ovarian tissue may have remained in the pelvis, thereby easing the establishment of the artificial menopause.

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MANAGEMENT OF PERITONEAL SOILING COMPLICATING SURGERY OF THE ABDOMEN

Merle J. Brown, M.D., Davenport

The abdominal surgeons have had a tremendously difficult problem in dealing with peritonitis which, in the past, has spelled the difference between success and failure of a procedure. Except for the rare case of primary peritonitis, it results from, and is secondary to, a perforated viscus or peritoneal soiling accompanying a surgical procedure. Since the etiologic factors are thus known, the lesion, in a large measure, is preventable by early diagnosis and careful, meticulous operative technic for prevention of peritoneal contamination. The purpose of this paper is to outline methods of preventing peritonitis when soiling does occur.

Absorption by the Peritoneal Membrane

The rate of absorption of substances from the peritoneal cavity is an important factor in considering the use of intraperitoneal chemotherapeutic agents. Any substance used intraperitoneally for its bacteriostatic effect must not be absorbed so rapidly as to lose its effective concentration, while other substances may remain within the cavity too long and become irritative to the peritoneum. Gardiner has stated that an ideal chemotherapeutic drug may be used in body cavities in concentrations of seventy-five to one hundred times the systemic administration. Hudson and Smith showed that sulfanilamide is rapidly absorbed from peritoneal cavity into the blood stream. From 15 gm. the peak blood stream level of 7 to 12 mg. per 100 cc. is reached in about twelve hours and falls to zero in thirty-six to forty-eight hours. The blood stream levels and duration of absorption have been found to be quite variable. These latter authors showed that the presence or absence of inflammation does not affect the absorption rate to any extent. Sulfadiazine has the slowest absorption rate while sulfathiazole and sulfapyridine are absorbed at rates slower than sulfanilamide but faster than sulfadiazine. Since the solubility of penicillin is far greater than that of any of the sulfonamides, its absorption from the peritoneal cavity must be far greater than the sulfonamides. The initial concentration in the peritoneal cavity has its bacteriostatic effect, but must be maintained by intramuscular therapy postoperatively. Rea stated that if sulfonamides are used before gross infection is present, the results logically will be better than when they are used in the presence of gross suppuration. Loeb

has written that the intraperitoneal topical use of sulfanilamide is not without complications. Toxic symptoms may be expected to begin on the second postoperative day and reach a peak on the fourth postoperative day.

Gardiner quoted Green and Parkin (1942) in stating that the antagonist of sulfonamides is an enzyme which has the substrate of para-aminobenzoic acid. This substrate, when present in pus, tissue extracts and related substances, requires greater concentrations of chemotherapeutic drugs to overcome its neutralizing effect.

The inhibiting substance of penicillin is an enzyme produced, in general, by gram-negative organisms. This enzyme was originally described by Fleming (quoted in Frazier's work). Bondi and Dietz have expressed the opinion that more clinical evidence is necessary to determine the importance of penicillinase in relation to penicillin therapy. Abraham, Chain and others found that the strongest noninhibitory concentration of penicillin in the culturing of *Bacillus coli* was 1-400, but they were unable to prove that this organism is capable of destruction of penicillin.

The application of sulfonamide intraperitoneally has been condemned by some because of the possibility of adhesion formation. The author has had no case where intraperitoneal sulfonamides or penicillin has caused adhesions or intestinal obstruction from adhesions. Crystals rapidly become enmeshed by peritoneum so that if large amounts are placed in the cavity without proper dissemination, walling off may occur. This is less likely to happen with crystalline penicillin because of its great solubility. Sodium salts of chemotherapeutic drugs are more apt to produce adhesions. Jackson and Collier found that the intraperitoneal administration of sulfonamides combined with other routes has more danger of jaundice.

Chemotherapy in Peritoneal Infections

The clinical application of chemotherapeutic agents for peritoneal infections or contaminations remains somewhat controversial, but evidence is being assembled to show that they have a place in the treatment plans. The multiple bacterial contaminants of the peritoneal cavity have influenced the use of intraperitoneal chemotherapeutic agents because of variability of bacterial resistance. It is generally known that sulfonamides will not produce bacteriostasis of all organisms, and that the influence of penicillin is most exerted on gram positive organisms. Cox and Forrest cultured the peritoneal exudates of 25 patients having peritonitis from perforated appendicitis and found that 22 had *Esch. coli*, 2 had hemolytic

TABLE 1
PRE-PENICILLIN PERIOD
Army and Local Hospitals

No. Cases	Diagnosis	Complications	Average Sulfonamide Dosage	Deaths	Recovery
8	Appendicitis, Gangrenous Perforated, General Peritonitis	2 Pelvic Abscesses 6 P.O. Obstructions 1 Hematuria 1 Pulmonary Embolus 1 Scarlet Fever	11 Gm.	1	7
1	Hernia Repair, McBurney Incision Caecal Opening Soiling	None	5.0 Gm.	0	1
16	Appendicitis, Gangrenous	None	6.7 Gm.	0	16
2	Appendicitis, Chronic Regional ileitis	None	5 Gm.	0	2
1	Appendicitis, Acute Regional ileitis	None	10 Gm.	0	1
1	Appendicitis, Acute Meckel's Diverticulum	None	5 Gm.	0	1
1	Appendicitis, Chronic Adhesions—Retrograde Removal	None	5 Gm.	0	1
2	Ulcer (1 Prepyloric, 1 Duodenal) Perforated	None	7.5 Gm.	0	2
1	Intestinal Obstruction—Adhesions of Meckel's Diverticulum—Resected	None	10 Gm.	0	1
1	M-1 Rifle Wound Abdomen and Chest Evisceration, Splenic Flexure Fecal Contamination, Colostomy	Slight Wound Infection	20 Gm.	0	1
1	Penetrating Wound Abdomen and Chest (Mine) Lacerated Liver	None	15 Gm.	0	1
2	Gastric Resection Pyloric Obstruction	Pulmonary Embolus	15 Gm.	1	1

Esch. coli and one had pure culture of Staphylococcus albus. They noted that clinically the sick-est patients were those having hemolytic Esch. coli or pseudomonas pyocyanea in combination with Esch. coli, while those patients having Staphylococcus aureus combined with Esch. coli were least severely ill with this infection. The author previously reported seven cases of general peritonitis resulting from perforated gangrenous appendicitis. The result of combined sulfonamide and penicillin intraperitoneally, supported by systemic administration, resulted in a zero mortality and reduced morbidity rate twelve to eighteen days. All patients had primary wound healing and no intraperitoneal complications.

Fauley, Duggan and others reported from the naval hospitals that peritonitis is the cause of death in 92 per cent of those patients who die after being admitted to a hospital with acute appendicitis (Bower). Crile reported 30 cases with established peritonitis in which penicillin in doses of 100,000 units every two hours exerted a striking effect in controlling the peritonitis arising from mixed flora of the intestinal tract. He showed that withdrawal of penicillin therapy too soon resulted in a recrudescence of symptoms and signs of local intraperitoneal suppuration. He then made the following interpretations of the beneficial

effects of penicillin in peritoneal infections. (1) Usual doses of penicillin are not sufficient to overcome the penicillinase effect of B-coli. (2) When larger doses are given, penicillinase effect is overcome and penicillin, although it does not inhibit the resistant B-coli, becomes effective against virulent gram positive cocci. (3) B-coli, and the majority of penicillin resistant organisms, are not virulent or invasive, and are essential saprophytes. (4) Tissues with high resistance, such as the peritoneum, are able to defend themselves against such organisms as B-coli if infection with virulent gram positive cocci is controlled. (5) Areas of low resistance, such as a wound of the abdominal wall, are not equipped with the defense mechanism of the peritoneum, and saprophytic organisms resistant to penicillin are likely to gain a foothold in dead spaces, in exudate or in devitalized tissue.

Wollgast stated that penicillin has not been generally accepted as an effective agent in the treatment of infected surgical conditions of the abdomen. He believes that if penicillin sensitive organisms are controlled early in infections, the insensitive organisms do not impede healing. Case studies by this author indicated that local intraperitoneal use of penicillin is of value prophylactically and therapeutically. Lockwood has sug-

gested that antibacterial drugs are helpful adjuncts in preoperative and postoperative care when the primary method of treatment remains surgical. Such a lesion as acute appendicitis, involving tissue necrosis and fecal soiling, is in this category of surgical diseases.

Combined Penicillin and Sulfonamide Intraperitoneally

The author used sulfonamides freely and in rather large doses, well disseminated in the peritoneal cavity, for peritoneal soiling and peritonitis, before penicillin came into use. There were no complications from the use of the drugs in such doses. The accompanying table gives a summary of representative operative cases in which drugs were considered important in the rather prompt recovery. The only death resulted from pulmonary embolus in a patient nearly recovered from peritonitis resulting from perforated appendicitis. The author believes that the intraperitoneal use of sulfonamides alone materially reduces the postoperative complications of peritonitis, viz., obstructions, abscesses and wound infections.

During the penicillin period, in spite of adverse reports against the use of penicillin in intraperitoneal infection, there arose, in a soldier with an acute gangrenous perforated appendicitis with general peritonitis, the necessity for a positive recovery. It was in this case that the combined use of penicillin and sulfonamides, supplemented by administration of the same drugs by other routes, was first tried. The recovery of this pa-

tient was almost phenomenal, and he required less hospitalization than is usually the case for such an extensive intraperitoneal infection. The first doses of penicillin administered intraperitoneally were dissolved in saline and injected deep into the pelvic area by a syringe and long needle. It was soon found that this method was impractical because of loss through the wound during the process of closure. Initially, a dose of 50,000 units by this method was considered tremendous. Since 1944 larger and larger doses of penicillin have been implanted in the peritoneal cavity, in the dry state so that amounts as high as 700,000 units have been placed in the cavity before closure of the abdominal wound. The penicillin crystals alone, or in combination with sulfanilamide, are used in varying amounts, depending entirely on the judgment of the surgeon at the table as to the amount of infection present, or on the extent of soiling that arose during the operative procedure. There is no time, under these circumstances, to take cultures and wait for the answer as to which chemotherapeutic agent should be used. The philosophy behind this rationale of treatment is that of preventing peritonitis rather than waiting and treating the complication after it has become fully developed.

Abdominal wounds as a general rule are closed tightly and drainage is rarely done. The use of drains is rather contraindicated because it allows escape of solutions of penicillin and sulfonamides in peritoneal fluid, thus negativating the effect of the agents locally for any sustained period of time. The author believes further that the use

TABLE 2
PENICILLIN PERIOD
Army and Local Hospitals

No. Cases	Diagnosis	Complications	Penicillin	Sulfonamide	Result
5	Appendicitis, Gangrenous Perforated, General or Local Peritonitis	1 Atelectasis	150,000 U.	10 Gm.	5 Recovery
1	Appendiceal Abscess	Wound Infection	100,000	20 Gm.	Recovery
1	G.S.W. Abdomen— Perforated Jejunum	None	100,000	10 Gm.	Recovery
1	Small Bowel Obstruction	P. O. Stupor	100,000	10 Gm.	Recovery
3	Enterostomy	None	333,333	8.3 Gm.	Recovery
3	Ulcer (1 Prepyloric and 2 Duodenal) Perforated	None	566,660	6.6 Gm.	Recovery
3	Pyosalpinx Tube	None	600,000	10 Gm.	Recovery
1	Ovarian Abscesses	None	600,000	10 Gm.	Recovery
1	Intestinal Obstruction	None	600,000	10 Gm.	Recovery
1	Ca. Sigmoid—Resection	None	600,000	10 Gm.	Recovery
1	Infected Papillary Squamous	Wound Infection	200,000	.....	Recovery
4	Cell Ca. Umbilicus	1 Biliary Fistula	450,000	4 Gm.	Recovery
4	Cholecystitis, Acute	None	600,000	.....	Recovery
1	Peritoneal Soiling	None	600,000	.....	Recovery
1	Re-operation Pyloric	None	600,000	.....	Recovery
1	Stenosis—4 day P.O.	None	700,000	10 Gm.	Recovery
1	Regional Colitis, Hemorrhage from	None	700,000	10 Gm.	Recovery
1	Ulcer, Resection of Sigmoid	None	500,000	.....	Recovery
1	Chronic P.I.D.	None	500,000	.....	Recovery

of drains in abdominal surgery enhances the development of adhesions and increases the possibility of complicating intestinal obstruction immediately postoperatively or later in the patient's life.

In addition to the local peritoneal therapy, the penicillin (20,000 to 100,000 units every 3 hours) and sulfonamide (1 to 3 gm. daily) are administered postoperatively by intramuscular and intravenous routes respectively to maintain therapeutic blood levels of each agent. Supportive measures such as transfusions, electrolyte balance, water balance, protein therapy and vitamin therapy are carried on concurrently with the chemotherapy. Paralytic ileus is controlled by immediate postoperative use, before distension develops, of the Levine tube or Miller-Abbott tube (or modifications of it) until peristaltic sounds return indicating the return of function of the intestinal tract. The course of treatment after surgery depends upon the extent of infection or soiling and the condition of the patient, but usually requires from five to twelve days. Usually the sulfonamide is stopped first while the penicillin therapy is continued beyond the time when other measures are discontinued and recovery is assured.

The abdominal wound practically always heals by primary intention and sutures are removed as in the usual clean case. There have been no eviscerations. In certain instances nonabsorbable suture material has been used regardless of the infection present.

Table No. 2 is a summary of some of the cases in which combined penicillin and sulfonamide therapy has been used. It will be noted that occasionally only crystalline penicillin is used. However, the author speculated in a 1947 publication that since sulfonamides will produce bacteriostasis in peritoneal mixed infections, the amount of penicillinase produced by the colon bacilli will be materially reduced. Then if sufficiently large doses of penicillin are used locally, any excess beyond that required for the neutralization of the penicillinase will exert a curative bacteriostatic effect in intraperitoneal infections or soiling.

Conclusions

1. The prophylactic and therapeutic uses of sulfonamides and penicillin in combination are important in the treatment of intraperitoneal infections and soiling.

2. The mortality and morbidity of peritonitis, following major abdominal procedures, can be materially reduced by the combined action of the chemotherapeutic agents discussed.

3. Local intraperitoneal therapy must be supported by administration of intramuscular peni-

cillin and intravenous sodium sulfadiazine postoperatively. Attention to fluid balance, protein therapy, vitamin therapy and bowel decompression must be given postoperatively.

4. Use of foreign material for drainage of the peritoneal cavity is unnecessary.

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SODIUM THEOPHYLLINE GLYCINATE A NEW THEOPHYLLINE PREPARATION

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The first use of a xanthine derivative (theobromine sodium salicylate) as a diuretic in heart failure was made by Babcock in 1891.¹ In 1895 Askanazy² stated that diuretin relieved the pain of angina pectoris. In 1902 Breuer³ verified the effect of xanthine derivatives in angina pectoris and stated that it was the most praiseworthy therapeutic advance in the ten year period.

It was noted, however, that diuretin, being insoluble, caused gastro-intestinal disturbances in the doses used and attempts were made to find other xanthine derivatives which were more soluble. Dessauer⁴ in 1908, introduced theophylline ethylenediamine, a more soluble preparation, and this stimulated interest in the treatment of coronary disease with the xanthine derivatives. Many research workers using the xanthine derivatives were able to demonstrate dilation of the coronary arteries even though they used different methods of study.^{5, 6, 7, 8}

Smith and Miller⁹ have shown that coronary

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flow in the intact animal heart increases with the administration of theobromine and theophylline. Later Smith, Miller and Graber¹⁰ compared the action of the various xanthine drugs on the rate of coronary flow in the isolated rabbit heart and found that theobromine increased the flow from 15 to 20 per cent. An increased flow of 30 to 40 per cent was found when theophylline was used and 60 to 80 per cent when theophylline ethylenediamine was used. In 1920 Heathcote⁷ investigated the action of caffeine, theobromine, and theophylline on mammalian and batrachian hearts and found ". . . that they have an active vaso-dilator action on the coronary vessels, probably muscular in origin; caffeine being the weakest and theobromine the strongest." In other studies Cow¹¹ and Eppinger and Hess¹² found that strips of coronary, renal and splenic arteries dilated in a solution of caffeine. In an experiment by Sollman and Pilcher¹³ it was discovered that the vessels of the kidney and spleen could be dilated by perfusing them with a weak solution of caffeine provided that they had been previously contracted with adrenalin.

Fowler, Hurevitz and Smith¹⁴ studied the effects of theophylline ethylenediamine on experimentally produced cardiac infarction in dogs in order to determine its action on the collateral circulation. The anterior descending branch of the left coronary artery, with the accompanying vein, was ligated just above the origin of the last main surface branch. Almost immediately an area of cyanosis appeared distal to the point of ligation, and this gradually increased in size and intensity for a period of about five minutes. When theophylline ethylenediamine was administered intravenously at this time, a decided reduction in the extent and degree of the cyanosis was noted, despite a drop in blood pressure. Some of these dogs were used as controls while others were given 0.2 gm. of theophylline ethylenediamine daily after the operation. Two of the dogs were given theophylline ethylenediamine intramuscularly and developed sterile abscesses at the sites of injection. All of the animals were autopsied at the end of three weeks. Dogs that received the medication by mouth showed a marked reduction in the extent of fibrosis as compared with the control group. In all of the dogs receiving theophylline ethylenediamine orally or parenterally, the extent of the infarction was less than those in the control series. From this study, Fowler, Hurevitz and Smith concluded that theophylline ethylenediamine was capable of developing improved collateral coronary circulation in the dog after ligation of a coronary artery.

It is known that Cheyne-Stokes respiration occurs frequently in congestive heart failure, and by interfering with the patient's rest and sleep, it prevents improvement in the cardiac condition. Vogl¹⁵ was the first to use the xanthine derivatives (theophylline ethylenediamine) in the treatment of this condition. He found that by intravenously administering the drug it would abolish Cheyne-Stokes respiration in the patient within a short time. His work has been confirmed by many others, particularly Smith and his co-workers.^{16, 17, 18, 19, 20, 21, 22} Marais and McMichael²³ have stated that the effect of theophylline ethylenediamine on Cheyne-Stokes respiration was due mainly to the ethylenediamine and that the theophylline itself was inactive. They found that in 1 of 3 cases ethylenediamine abolished the apneic phase, but the periodic cycle of the irregular breathing still persisted. Subsequent injection of theophylline in this one patient restored normal breathing as well as in the other two cases. Later, however, Nathanson and Fitzgibbon²⁴ repeated the experiments of Marais and McMichael and concluded that ethylenediamine was ineffective in abolishing Cheyne-Stokes breathing, and that theophylline was the active agent in theophylline ethylenediamine.

The exact mode of action of the xanthine derivatives is not definitely known. It is well established that drugs which affect the respiratory center do not always affect Cheyne-Stokes respiration. Greppi²⁵ demonstrated that there is a rapid drop in spinal fluid pressure after an intravenous administration of theophylline ethylenediamine. He thought that the reduction in the intrathecal pressure resulted from the action of theophylline ethylenediamine on the cerebral circulation. Paul, Greene, and Feller²⁶ substantiated this result and also found that there was a marked reduction in the venous pressure. The decrease in intrathecal pressure alone would not account for the abolition of Cheyne-Stokes respiration since the administration of 50 per cent glucose intravenously has no effect on this type of breathing. Sperling²⁷ and his associates, using an intravenous administration of theophylline ethylenediamine, obtained an increase in the depth of respiration of 21 per cent in postoperative patients without pulmonary involvement.

From these studies it would seem that the effect of the xanthine derivatives in abolishing Cheyne-Stokes respiration results from many factors. The more important of these are: decrease in intrathecal pressure, decrease in venous pressure, relaxation of the smooth muscle of the bronchi,²⁸

increased coronary flow, and probably an increase in the cerebral arterial blood flow.

The xanthine derivatives were used primarily for diuresis until Smith and his associates showed that these drugs were effective in dilating the coronary arteries. On the basis of this work, theophylline and theophylline ethylenediamine were used in congestive heart failure.^{20, 29, 30} In 1927, Smith stated:³¹ "Caffeine, theobromine and theophylline, particularly the latter two, are very valuable drugs in the treatment of cardiac failure." The value of the xanthine derivatives, particularly theophylline ethylenediamine, in the treatment of congestive heart failure has been verified by others. These drugs have also been found effective in the treatment of angina pectoris, coronary occlusion, coronary artery disease and left ventricular failure. In the latter condition, the drug is most effective when given intravenously or by rectal suppository.^{32, 33, 34, 35}

While studying the effect of theophylline ethylenediamine in the treatment of congestive heart failure and Cheyne-Stokes respiration, it was found by one of us that theophylline ethylenediamine was effective in relieving an attack of bronchial asthma. This observation was substantiated by Herrmann and Aynesworth¹⁸ who stated that, "The dose often relieves the asthma and restores the normal reaction to epinephrine." Brown³⁶ was of the opinion that the use of theophylline ethylenediamine in bronchial asthma, "... may be a life-saving measure." In the older age group of patients, a paroxysm of shortness of breath may be the result of bronchial asthma, emphysema or coronary artery disease. In such a patient, with questionable cardiac status, epinephrine may precipitate left ventricular failure or other serious cardiac complications.²¹ Theophylline ethylenediamine is the drug of choice and may be administered as an intravenous solution or as a rectal suppository. We have found that theophylline ethylenediamine will improve the shortness of breath which occurs in emphysema or the so-called "asthmatic bronchitis" but that the duration of its effect is short.

The clinical results from the use of the available xanthine derivatives have been limited by an inability of patients to take large doses of the drugs without experiencing nausea and vomiting. Theophylline preparations are readily broken down by the hydrochloric acid of the stomach and as a result liberate a free amine which produces irritation of the gastric mucosa. Enteric coating has been applied to theophylline preparations without improving the results that have been observed in

this clinic. In working with this problem, it was proposed by one of us that a combination of theophylline with an antacid might reduce gastric irritation and thereby allow the ingestion of larger doses of theophylline. This problem was referred to Dr. John C. Krantz, Jr., of the Department of Pharmacology, School of Medicine, University of Maryland, and he succeeded in making such a preparation.³⁷ This preparation consisted of a combination of theophylline and glycine and is known as sodium theophylline glycinate.

Sodium theophylline glycinate is a white, almost anhydrous, powder which contains approximately 50 per cent theophylline. It has no melting point but darkens at 190 C. and becomes black at 210 C. It is soluble in water to approximately 18 per cent (w/v). A saturated solution of the material has a pH of 8.17 to 9.1, a density at 20 C. of 1.05, and exhibits unusual stability to carbon di-

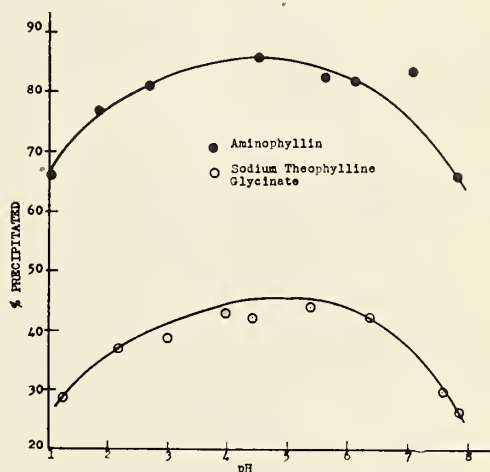


Fig. 1. Comparison of precipitability of aminophyllin and sodium theophylline glycinate by hydrochloric acid.

oxide. Krantz and his co-workers compared this preparation with theophylline ethylenediamine as to its ability to dilate the coronary arteries. He carried out coronary flow experiments on the hearts of dogs in situ with the Moravitz-Zahn technic. Using individual 2 per cent solutions of theophylline ethylenediamine and sodium theophylline glycinate, 10 cc. doses were injected intravenously. It was found that each drug elicited prompt coronary dilation of approximately the same magnitude and duration.

After receiving a supply of sodium theophylline glycinate,* we repeated the experiments of Krantz as to the physical and chemical properties of the drug. The results of our studies agreed within 1 per cent with those of Krantz in regard to the

*Drug supplied by the Brayten Pharmaceutical Company, Chattanooga, Tenn.

determinations for specific gravity, solubility, melting point and decomposition.

Since it was our belief that the hydrochloric acid of the stomach precipitated free theophylline from the xanthine derivatives and thus produced gastric irritation, we first decided to determine the precipitability of sodium theophylline glycinate and compare it with the precipitability of theophylline ethylenediamine. Saturated solutions were prepared in the absence of carbon dioxide and aliquot volumes were treated with hydrochloric acid and stirred. The pH was measured with a glass electrode until it remained constant. The precipitate was collected, dried at 100 C. and weighed. The percentage of the precipitated material was calculated after correction for volume changes. Melting point determinations showed that this material was pure theophylline regardless of which solution was used. Maximum precipitation occurred within a pH range of 4 to 5 and decreased both above and below this range. The precipitability of sodium theophylline glycinate is about one-half that of theophylline ethylenediamine, as shown in figure 1. Since the solubility is about one and one-half times greater than that of theophylline ethylenediamine (on the basis of equal theophylline content), it is evident that much more theophylline would be available in solution from sodium theophylline glycinate under conditions comparable to those in the stomach.

The buffer effectiveness of sodium theophylline glycinate was compared with that of theophylline ethylenediamine. Twenty-five cc. samples of saturated solutions of sodium theophylline glycinate and theophylline ethylenediamine, containing the same weight of theophylline, were titrated with 12 N. HCl. It was found that in order to reduce the initial pH to a constant value of 0.9, it was necessary to use 3.24 cc. of acid for sodium theophylline glycinate but only 1.50 cc. for theophylline ethylenediamine. It is readily seen that sodium theophylline glycinate has considerable buffering power and it is believed that this is due to the glycine content.³⁸

Several facts point to the conclusion that sodium theophylline glycinate is not a true chemical compound but rather a unique mixture with desirable therapeutic properties. First, the precipitation with acid always yields pure theophylline. Secondly, if saturated solutions are prepared using a large excess of solid phase, analysis of the resulting solution shows a different theophylline content than similar solutions prepared avoiding a large excess of the solid. Thirdly, whether the solutions are prepared from sodium glycinate and theophylline or from sodium theophylline and glycine, the

pH values of the final solutions are identical. The lack of a break in the curve of glycine concentration as plotted against pH indicates that no compound formation has taken place.

The toxicology of sodium theophylline glycinate has been studied by Munch,³⁹ who found that the LD 50 per cent for the drug was 1200 mg./kg. which is approximately double that of the theophylline value. From studies in chronic toxicity he has concluded that sodium theophylline glycinate is relatively non-toxic in doses up to 50 per cent of the LD 50 per cent value, i. e. daily doses of 600 mg. of sodium theophylline glycinate kg. for a period of a month. This would correspond to the administration of doses of 600 grains of sodium theophylline glycinate daily to an adult human for a continuous period of twenty-four months without untoward effects. Pathologic examination of some of the animals, during and at the end of the chronic toxicity studies, showed no gross or microscopic changes.

Next to be determined was the effect of sodium theophylline glycinate on the cardio-vascular system of animals. The purpose of this experiment was to determine whether the new drug had a theophylline effect and, if so, how it compared with other forms of the xanthine derivatives. The following experiments were undertaken to study the action of sodium theophylline glycinate on the coronary flow, the frequency of the heart beat, and the amplitude of contraction in the isolated rabbit heart. The method used was a modified Langendorf technic as described by Smith, Miller and Graber.¹⁰ Sodium theophylline glycinate was compared in these experiments with theophylline ethylenediamine and theophylline sodium acetate. Solutions of the three drugs were prepared in such a manner that each cubic centimeter contained 1 mg. of theophylline. The theophylline content was calculated as 77 per cent of the total weight of theophylline ethylenediamine, 60 per cent of the total weight of sodium theophylline acetate and 50 per cent of the total weight of sodium theophylline glycinate. These solutions were diluted 1:2 before use in order that the test solutions as given would contain 0.5 mg. of theophylline for each cubic centimeter of solution.

The rabbit heart was removed from the chest, a cannula inserted into the aorta, and the isolated heart was perfused with an oxygenated Locke-Ringer solution until a constant heart rate, amplitude of contraction, and rate of perfusion were established. The test solutions were added to the perfusion fluid in amounts of 1 cc. at a point immediately above the cannulated aorta. The effects of the added test solutions were recorded on

a kymographic tracing. The coronary flow was caught in a tipping bucket and the number of times that the bucket tipped was recorded on the kymograph. Table 1 shows the results of a typical experiment using the three drugs as perfusates in the same isolated rabbit heart.

TABLE 1

A. Theophylline ethylene diamine		
Control	Experimental	
Heart rate 112	122 (maximum)	
Amplitude	Slightly increased	
Perfusion rate		
(buckets/min) 9	10-11	
B. Sodium theophylline glycinate		
Control	Experimental	
Heart rate 116	128 (maximum)	
Amplitude	Moderate increase	
Perfusion rate		
(buckets/min) 6-6 ½	10-11	
C. Sodium theophylline acetate		
Control	Experimental	
Heart rate 124	144	
Amplitude	Moderate increase	
Perfusion rate		
(buckets/min) 3	4½	

It was found that 0.5 mg. of theophylline, whether given as any one of the three drugs under consideration, caused an increase in coronary flow for at least three minutes. If the isolated heart was perfused for a longer time with any of the three drugs, the duration of increased coronary flow was dependent upon the amount of the drug used. Sodium theophylline acetate increased the heart rate to a greater extent than either of the other two drugs. From the above experiment it was concluded that sodium theophylline glycinate has no adverse effects upon the isolated rabbit's heart. This preparation produced an effect on the coronary flow similar to, and quantitatively equivalent to, that produced by theophylline ethylenediamine and sodium theophylline acetate when the perfusates contained the same amount of theophylline.

The next part of the experimental work was a study of the effect of sodium theophylline glycinate on the rate of blood flow through the exposed femoral artery of the dog. A modification of Schmidt's bubble-flow apparatus was used.^{40, 41} The test dogs were given light nembutal anesthesia, the femoral artery exposed, the bubble-flow meter connected to the exposed artery, and the rate of blood flow was determined after a period of stabilization. Heparin was used to prevent blood coagulation. In some of the experiments the blood flow was measured simultaneously in the two limbs. The flow of the blood was determined by noting the time in seconds required for an air bubble to traverse a calibrated distance within the apparatus. This distance represented a volume

of 6 cc. of blood. When the blood flowed slowly, the time required for the bubble to traverse the given distance was always increased, and if the rate of flow in the artery increased, the time required for the bubble to traverse the same distance was greatly shortened. In these experiments sodium theophylline glycinate was compared with theophylline ethylenediamine and theophylline sodium acetate, using equivalent theophylline contents. Solutions were prepared from these drugs so that each 2.5 cc. contained 100 mg. of theophylline. The following are typical examples of the experiments performed:

Experiment 1: A dog weighing 16.8 kg. was kept under moderate nembutal anesthesia and heparinized; 250 mg. of sodium theophylline glycinate in 6.25 cc. of normal saline solution were injected directly into the femoral artery between the blood flow apparatus and the heart.

Control flow time:	95 cc./minute
Experimental flow time: Immediate	280 cc./minute
3 minutes	212 cc./minute
6 minutes	157 cc./minute
9 minutes	157 cc./minute
14 minutes	116 cc./minute

The rate of flow through the femoral artery was increased over 300 per cent and had not returned to the normal value at the end of fourteen minutes after injection of the drug.

Experiment 2: A dog weighing 10.8 kg. was kept under moderate nembutal anesthesia and heparinized; 2.5 cc. of normal saline, containing 100 mg. of sodium theophylline glycinate were injected as in experiment 1.

Control flow time:	88 cc./minute
Experimental flow time: Immediate	133 cc./minute
5 minutes	120 cc./minute
8 minutes	97 cc./minute
11 minutes	84 cc./minute

Experiment 3: A dog weighing 21.1 kg. was prepared as in the above experiments; 2.5 cc. of a solution of sodium theophylline glycinate in normal saline and containing 100 mg. of theophylline were injected as above.

Control flow time:	80 cc./minute
Experimental flow time: Immediate	360 cc./minute
5 minutes	103 cc./minute
10 minutes	84 cc./minute

The blood flow rate was allowed to stabilize and a new control rate established after which 2.5 cc. of theophylline ethylenediamine solution in saline containing 100 mg. theophylline were injected as in the previous experiments.

Control flow time:	80 cc./minute
Experimental flow time: Immediate	360 cc./minute
4 minutes	113 cc./minute
10 minutes	80 cc./minute

Having thus far in our studies determined that sodium theophylline glycinate increased the coronary flow in the isolated rabbit heart and increased the rate of circulation within the femoral artery of the dog, the next step was to observe the effects of the drug when administered to humans. It is well known that theophylline ethylenediamine when given intravenously will reduce venous and intrathecal pressure in cardiac failure, and will restore the regular rhythm of breathing in Cheyne-Stokes respiration. In this study with patients, the intrathecal pressures were determined with the patient on the side in a horizontal position. The head was supported by two pillows. The spinal canal was tapped by needle in the lumbar region and the pressure was recorded by water manometer. Pressure applied to the cervical veins before and after each study always produced temporary increase in pressure. The venous pressure was measured by a modification of the Hussey method as described by one of us in a previous article.²⁶ The drug was given intravenously in doses of 0.8 gm. diluted to 30 cc. with physiologic solution of sodium chloride, three to five minutes being required for the injection. This dose of sodium theophylline glycinate has approximately the same theophylline equivalent as does 0.48 gm. of theophylline ethylenediamine. With this dose of sodium theophylline glycinate, the normal rhythm of breathing was restored in most patients with Cheyne-Stokes respiration due to cardiac failure. Whenever the drug failed to re-establish the normal rhythm, a subsequent injection of theophylline ethylenediamine also failed. In those patients who had recurring attacks of left ventricular failure, either sodium theophylline glycinate or theophylline ethylenediamine would relieve the paroxysm. The results of both drugs in the same patient were always similar and were dependent upon the amount of theophylline contained in the solution. Later these drugs were administered by rectal suppositories and were both found effective by this route in abolishing the paroxysms of left ventricular failure. The patients were unable to determine which drug had been given by suppository from the effects experienced.

In most instances it was found that sodium theophylline glycinate reduced intrathecal pressure. The following is an example of typical results obtained:

W.C.H., age 61 years.

Diagnosis: Hypertensive cardio-vascular disease.

Initial spinal pressure.....190 mm. spinal fluid
After hypodermic needle inserted
into vein220 mm. spinal fluid
After 15 cc. of solution was given 170 mm. spinal fluid

After 30 cc. of solution was given 140 mm. spinal fluid
After 12 cc. of spinal fluid
removed120 mm. spinal fluid

In table 2, some of the results of this study on intrathecal pressure are shown. The effect of the drug was greatest after about 20 to 25 cc. of the solution were injected and usually coincided with the relief of either the paroxysmal dyspnea or Cheyne-Stokes respiration. No fall in intrathecal pressure was obtained in those cases whose initial intrathecal pressures were normal or only slightly elevated.

Sodium theophylline glycinate administered intravenously caused a reduction of the venous pressure which was similar to that obtained with theophylline ethylene diamine. The following is an example of such an experiment using the former drug:

W.C.H., age 61 years.

Diagnosis: Hypertensive cardio-vascular disease.

Initial venous pressure.....286 mm.
After 5 cc. solution injected.....279 mm.
After 15 cc. solution injected.....210 mm.
After 20 cc. solution injected.....190 mm.
After 30 cc. solution injected.....174 mm.

Additional results are tabulated in table 2.

TABLE 2

Reduction in venous and intrathecal pressures after the intravenous administration of sodium theophylline glycinate in patients with cardiac failure.

	Venous Before mm.	Pressure After mm.	Spinal Fluid	
			Before mm.	After mm.
Case 1.....	286	174	190	140
2.....	350	296	212	164
3.....	196	124	236	200
4.....	240	180	310	280
5.....	305	190	360	295
6.....	60	55	110	105
7.....	110	104	118	98
8.....	38	36	84	86
9.....	46	40	92	90
10.....	115	105	86	78

It was concluded that sodium theophylline glycinate had the same effect on both intrathecal and intravenous pressures as did theophylline ethylenediamine, when injected in solutions having similar theophylline content.

The next step in the study was to observe if sodium theophylline glycinate could be tolerated by patients when given orally and whether or not it caused irritation of the gastro-intestinal tract. The drug was administered to a series of patients ranging in age from 16 to 83 years. The initial dosage was 0.4 gm. (6 grains) given three times per day. In most of the cases, the drug was given for a period of one week and others for a period of several weeks. None of these patients

encountered any difficulty while taking the drug. In a few individuals, who were being treated for either coronary occlusion or asthmatic bronchitis (emphysema), the dose of the drug was gradually increased until they were taking 2 gm. (30 grains) per day. This increased dosage was maintained for two weeks. A few patients were given 3.5 gm. (52 grains) per day for a period of four weeks. None of these showed any irritation of the gastro-intestinal tract. Patients with marked congestive heart failure were found to tolerate 0.8 gm. (12 grains) without difficulty. In this group of patients it was found to be difficult to evaluate the symptoms of gastric irritation because most of them were already being treated with drugs such as digitalis, mercurial diuretics, and ammonium chloride, and some of them had had nausea and vomiting before sodium theophylline glycinate was started. It was found that those patients who had nausea and vomiting during the acute stage of congestive failure were able to tolerate the drug after the subsidence of edema. Two hundred and fifty patients were given this drug for at least one week or more and about 80 cases received it for shorter periods of time.

The next problem was to determine whether or not this drug could be given over an extended period of time in doses larger than one ordinarily uses when prescribing the xanthine derivatives. Several patients with asthmatic bronchitis or emphysema were given 1.6 gm. (24 grains) to 2.0 gm. (30 grains) daily in divided doses and maintained for variable lengths of time. Up to the present time twelve patients have been closely observed, who have taken this drug in the above dosage for a period of eighteen months. Several patients have taken larger doses for at least a year, and one man whose history will be described in detail later had been taking 3.5 gm. (54 grains) for a period of nearly four months before reducing the dose.

Having determined that sodium theophylline glycinate could be given over long periods of time in rather large doses, we began using it in all cases where xanthine derivatives were indicated. The drug was prescribed in tablet form, in suppositories, in solution for parenteral injection and in combination with racephedrine. It was given to patients having coronary occlusion, arteriosclerotic heart disease with congestive failure, left ventricular failure from varying causes, cor pulmonale, hypertensive encephalopathy, emphysema, asthmatic bronchitis, and severe asthma. More recently we have been studying the effect of this preparation in peripheral vascular disease. The following three cases are reported in detail to show a few of the results obtained with this drug.

History: R.H., male, aged 57, had influenza in 1919. In 1923, the antrae were drained, the tonsils removed and nasal polypi removed. Nasal polypi were also removed in 1932 and 1936. In 1937 a clinical diagnosis of duodenal ulcer was made and confirmed by x-ray. During a mild coryza attack in 1938, he first noticed symptoms of wheezing and dyspnea which lasted about forty-five minutes. Dust, cold air and horse dander were noticed to precipitate the attacks. Symptoms of asthma have persisted to date with several hospitalizations in the period from 1940 to 1946.

The first admission to University Hospital was in 1940 at which time nasal polypi were removed, and later bilateral sphenoid-ethmoid evisceration and left Caldwell-Luc operation were performed. He worked in a hemp mill from April to December, 1944, with exacerbation of his symptoms of asthma. In March, 1945, he was readmitted to the hospital with recurrence of ulcer symptoms and discharged on an ulcer regimen with sodium theobromine acetate 0.5 gm. ($7\frac{1}{2}$ grains), daily added to his asthma therapy. He was readmitted to the hospital in April, 1945, with severe symptoms of asthma and was treated vigorously with intravenous theophylline ethylenediamine, Wagner's Lung Shrinker, ether in oil per rectum, intranasal oxygen, and epinephrine subcutaneously and by inhalation. The symptoms subsided and he was readmitted in July, 1945. Intradermal tests showed him to be sensitive to many foods and epidermals. In October, 1945, he had pneumonia which was treated with penicillin. Following recovery from this illness, he was free of asthma symptoms for six weeks. In December, 1945, he had another upper respiratory infection which increased his asthma symptoms, and he was confined to his bed for three months. He had not worked since December, 1944, and had been an invalid in bed most of the time, requiring a great amount of the wife's time and energy for his care.

The family history revealed that the patient had one brother with severe asthma who is a chronic invalid due to this affliction. His father took his own life because of intractable asthma. Two sisters and two daughters have asthma.

Physical Examination: The patient was a white man of 57 years of age who appeared at least ten years older. He was emaciated and appeared to have lost considerable weight. He was sitting upright in bed and using the accessory respiratory muscles in order to get enough air. The expirations were prolonged. The nose was obstructed with polypi and there was some anterior nasal discharge. The thorax showed hyperresonance and an increased anteroposterior diameter. The

breath sounds were distant. An umbilical hernia 2 cm. in diameter was present. There was marked disuse atrophy of the extremities. The vital capacity of the lungs was 500 cc. during an asthmatic attack and 4,000 cc. after relaxation with drugs. The rest of the physical examination was within normal limits.

Laboratory examinations showed the blood counts, hemoglobin, urinalysis, Kline and Kolmer tests, blood urea nitrogen, total protein, albumen, and globulin fractions to be within normal limits. Examination of nose and throat revealed nasal polypi and a pansinusitis.

The patient was treated vigorously with penicillin by inhalation and intramuscularly, with killed typhoid bacilli intravenously, adrenalin and theophylline ethylenediamine intravenously and by rectal suppositories. Despite this treatment, his general condition became worse and the asthma remained unchanged. He was started on oral sodium theophylline glycinate and was ultimately standardized on 6 grains of the drug five times per day. Improvement was prompt and in a short time he was no longer considered to be in serious condition. The asthmatic attacks became less severe and he continued to improve so that by the time he was discharged from the hospital, he had gained up to 112 pounds.

He was returned to the hospital in May, 1947, at our request for re-examination. He had continued to take 4 to 5 tablets of sodium theophylline glycinate (6 grains each) daily. He also had been taking about one injection of epinephrine subcutaneously in the evening four or five times per week because of mild attacks of asthma on those occasions. He stated that he spent about six hours per day working in the garden or caring for his livestock. He was no longer an invalid and had gained twenty-seven pounds. He stated that his attacks were mild now and he would frequently go for ten days without an attack. Occasional squeaks were heard at both lung bases. The vital capacity was 3,600 cc. of air. The rest of the physical and laboratory examinations were normal with the exception that x-ray of the chest showed moderate emphysema.

History: M.S.H., male, aged 64, was well until 1912 when he suffered mild attacks of asthma. In 1919 he had typhoid fever. In 1921, he had a nasal operation, the exact nature of which is not known. In 1922 he had mild asthma throughout the year. By 1932 the attacks of asthma had increased in frequency and severity and although it was not seasonal, he noted increase of his symptoms in the late summer and early

winter. He also had occasional hay fever symptoms in the late summer.

He was first admitted to University Hospital in 1941 because of low back pain. X-rays showed generalized osteoporosis. Blood calcium level was 15 mg. per cent, phosphorus 2.5 mg. per cent, phosphates 9.9 mg. per cent and urinary calcium excretion 0.178 gm. per twenty-four hours. An adenoma of the parathyroid gland was removed with complete subsidence of his symptoms. Several other hospital admissions followed subsequently because of asthma. In October, 1944, an attack was precipitated following exposure to the fumes of a refrigerant. In December, 1945, he was admitted with asthma following exposure to cold air. His symptoms usually subsided within twenty-four hours after admission to the hospital. Intradermal tests showed him to be sensitive to raisins, sweet corn, house dust, and camel hair. He was mildly sensitive to many other foods and epidermal. He was desensitized to house dust by his local physician and was relatively free of asthma symptoms until 1946.

There was no history of asthma, tuberculosis, or cancer in the family but his father had had diabetes.

Physical Examination: In March, 1946, upon admission to University Hospital, he was found sitting upright in bed and suffering acute respiratory distress. Wheezing was audible. It was difficult for him to talk because of his dyspnea. The nasal passages showed slight chronic inflammation. The neck showed a well healed operative scar over the base anteriorly. The lungs were hyperresonant and generalized musical and whistling sounds were heard. The rest of the physical examination was entirely normal. Blood and urine examinations were normal. The blood Wassermann test was negative.

Treatment and Subsequent Course: An initial dose of 1.2 gm. (18 grains) of sodium theophylline glycinate by mouth caused marked decrease in his respiratory distress. Two days later the patient was discharged from the hospital with prescriptions for sodium theophylline glycinate grains 6, orally five times per day, and Wagner's Lung Shrinker 4 cc.q.i.d.

He was readmitted in April, 1946, with a recurrence of asthma which followed cessation of sodium theophylline glycinate. The therapy was started again. Since that time he has been free of asthma except for several mild attacks following the ingestion of strawberries and corn, all quickly relieved by a small amount of inhaled epinephrine. He has had no further severe attacks and has not resorted to subcutaneous epine-

phrine or other form of treatment. He was examined in August, 1946, and again in September, 1947. He has continued to take three tablets of sodium theophylline glycinate (6 grains each) per day. His health, strength and weight are excellent. He states that he often runs up three flights of stairs without any undue shortness of breath or fatigue. His appetite is excellent and he is able to carry on his usual occupation as high school principal in a normal manner. He was re-examined December, 1947, at which time nothing abnormal was found.

History: M.L.G., male, aged 72, had typhoid fever at 15 years of age. In 1919, a right mastoidectomy was performed. In 1925 he developed a chronic cough with frequent wheezing. The cough was always present in the winter and decreased in the summer. The cough was mildly productive. There was no hemoptysis. The winter cough became incapacitating in 1938. Each head cold or exposure to cold air would cause increased cough and sputum. An x-ray of the chest at this time by his local physician was reported as not remarkable. He lost 20 pounds in weight during that winter. The symptoms increased each winter until in 1945 when he required adrenalin, ephedrine and morphine for relief. There was no history of tuberculosis in the family.

Physical Examination: The patient was admitted to the University Hospital November, 1946. He was a well preserved and active white male of 72 years weighing 120 pounds. It was possible for him to lie flat in bed without respiratory difficulty. There was a right mastoidectomy scar present. He was edentulous. The chest was hyperresonant and emphysematous. Numerous musical bronchi were heard over both lung fields. The rest of the physical examination was within normal limits. Blood counts and urinalysis were within normal limits.

Treatment and Subsequent Course: Sodium theophylline glycinate was first administered in daily doses of 3.5 gm. (54 grains). Within five days, following the initial administration, all of the acute symptoms had disappeared. The patient experienced only a mild bitterness in the mouth and slight anorexia. Four months later the dose was reduced to 1.8 gm. (30 grains) daily which the patient continued to take throughout the winter. He stated that there were no further acute periods of coughing or wheezing during that time and he continued to remain in good health and weight. On one occasion, in March, 1947, he stopped taking his medication because he had no symptoms of asthma and thought he

was cured. Within one week there was a prompt return of coughing, wheezing, shortness of breath, and the other symptoms of asthma. Upon resuming the drug, the symptoms promptly subsided and have not returned up to present (January, 1948).

We have used sodium theophylline glycinate for the past two years in the treatment of conditions in which theophylline was indicated. It has been found that in the treatment of severe congestive heart failure, the dosage should be initially small and increased as the patient recovers. Congestive failure, itself, causes considerable nausea and any drug given by mouth at such times increases the gastro-intestinal distress. Under these circumstances, it is preferable to administer sodium theophylline glycinate by rectal suppository (0.8 gm.) three to six times per day. If no nausea is present, the patient can be given 0.25 gm. (4 grains) three or four times per day by mouth. The average cardiac patient needs about 0.8 gm. (12 grains) of the drug per day for maintenance. Following a coronary occlusion or acute attack of coronary insufficiency, the drug is prescribed by suppository and later is given by mouth. The dosage used in such patients is similar to that given to cases of congestive heart failure. We have noted that many patients on cardiac management develop a mental awareness relative to the irritating effects of the drugs used. Any sensation in the abdomen is therefore attributed to the drug being given at that time. In these patients, it is best to reduce the dosage or to discontinue temporarily the drug by mouth and use the rectal route of administration for a few days.

Patients with emphysema, asthmatic bronchitis or allergic asthma usually have little or no heart failure and can tolerate larger doses of sodium theophylline glycinate. The dosage of the drug required in the above conditions will vary from 0.8 gm. (12 grains) to 3 gm. (45 grains) when administered orally. When necessary, the oral dosage may be supplemented by the use of rectal suppositories. The drug has also been prepared with racephedrine in tablet form for the relief of asthmatic attacks.

The most effective treatment of acute left ventricular heart failure manifested by pulmonary edema, shortness of breath or paroxysmal nocturnal dyspnea (cardiac asthma), is theophylline administered intravenously. In discussing the special manifestations of left heart failure and their treatment, Gold states "0.5 gm. aminophylline injected slowly intravenously sometimes produces striking relief from the sensation of suffo-

cation."⁴² As shown previously by one of us, aminophylline is the treatment of choice in cardiac asthma.²² We have treated acute left ventricular failure with sodium theophylline glycinate intravenously in doses up to 0.8 gm. (12 grains). Theophylline preparations have been given intravenously at University Hospital for over twenty years, and it is our observation that if the drug is given slowly so that the heart rate is not appreciably increased, no untoward results occur. Merrill⁴³ cited three cases and recently Bresnick⁴⁴ and his associates reported three additional cases which terminated fatally during or immediately after the intravenous administration of aminophylline. In a review of these six case histories as reported, one may conclude that all of these patients were critically ill with acute cardiac conditions and were given the aminophylline as an emergency measure. It is also noted that these patients had received and were receiving other drugs which may have contributed to these fatal terminations. As Bresnick and his associates have pointed out, "If aminophylline were a dangerous drug to give intravenously, one would have expected more reports of disasters attending its use." Recent experience has taught us that in moderately severe acute left ventricular failure, the rectal administration of the theophylline preparation is as effective as intravenous administration.

Conclusions

1. A new theophylline preparation, sodium theophylline glycinate, has been described. This is not a chemical compound but a unique mixture exhibiting desirable therapeutic effects. Although it is one and one-half times as soluble as theophylline ethylenediamine, it has only one-half the precipitability when mixed with hydrochloric acid. The buffering power is considerable, probably due to the glycine content. It is relatively nontoxic, the L.D. 50 per cent being 1200 mg./kg.

2. Sodium theophylline glycinate will increase coronary flow in the isolated rabbit heart and enhance the rate of blood flow in the femoral artery of the dog up to 300 per cent.

3. In human subjects, sodium theophylline glycinate, given intravenously, will abolish Cheyne-Stokes respiration, and reduce the abnormally high venous and intrathecal pressures.

4. Because sodium theophylline glycinate causes less gastro-intestinal disturbances, larger doses can be prescribed. It has been used over a two year period in the treatment of all conditions in which the theophylline was indicated. In congestive failure 0.8 gm. (12 grains) of the drug represents an average daily dose, while in asthmatic bron-

chitis it may be necessary to give up to 3 gm. (45 grains) or more per day.

5. Sodium theophylline glycinate can be prescribed orally, intravenously, rectally (suppositories), in solution, or can be prescribed with other drugs such as phenobarbital or racephedrine. The rectal route of administration is recommended early in congestive heart failure, following coronary occlusion or insufficiency, or during left ventricular failure.

We wish to thank Mr. R. Dryer for his assistance with the chemical studies, Dr. C. R. Kemp for his help in the physiologic studies and Dr. Munch for the toxicologic studies.

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FOREIGN BODY IN THE NASOPHARYNX

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Foreign bodies in the food and air passages are common, particularly in children. Their successful removal, by endoscopic means, has now become a standardized procedure, thanks to the work of such pioneers as Chevalier Jackson and his associates. The actual removal of a foreign body by endoscopic procedure is a highly specialized work, requiring special training, dexterity, and judgment, as well as team work. It is therefore best left to those who are properly qualified for this type of work. The diagnosis of foreign body in the food or air passages must of necessity be in the hands of all physicians. At least a suspicion of this condition must be aroused if many cases are to be referred properly and early enough to avoid the complications attendant to unrecognized foreign body.

There are certain basic principles to keep in mind in the investigation of a foreign body case. The food and air passages include the nose, nasopharynx, and the hypopharynx, as well as the

larynx, trachea, bronchi, esophagus, stomach, and intestinal tract. A foreign body may pass through or become impacted in any one of these structures. The symptoms depend upon the type of foreign body, its location and its interference with the physiology at the site of its impaction. The symptoms of a foreign body in some locations are almost diagnostic. It would be the mark of a very dull diagnostician to fail to suspect a foreign body in the nose of an otherwise healthy child, presenting a unilateral, foul nasal discharge. Most of us will also keep in mind Jackson's dictum, "All that wheezes is not asthma."

The importance of a careful history has been emphasized many times. One may be saved considerable chagrin by carefully trying to establish in the history a relationship between seemingly remote symptoms and an incident suggestive of a foreign body ingestion.

Careful x-ray examination, both fluoroscopic and radiographic, is a very important part of the examination. Jackson¹ reminds us that "roentgen ray examination should always include all the structures from the nasopharynx to the tuberosities of the ischii; otherwise a foreign body may be overlooked, or if one is found others may be overlooked in the case of multiple foreign bodies. A lateral roentgenogram should never be omitted."

Ward² in 1870 reported the removal of a pin from the posterior nares of a child, and concludes: "My object in submitting this case is to urge upon the surgeon the necessity of thoroughly examining the nasal cavities, both anterior and posterior, in all cases of impaction of a foreign body when he has failed to find the substance in the larynx, oesophagus, or neighboring parts."

Foreign bodies in the nasopharynx are often present for only a brief time. Their size or the reaction produced by them often leads to their spontaneous removal at least to another part of the body. Foreign bodies impacted in the nose have been fairly common. Their removal is often difficult because of their size or shape. They have been present for many years in cases such as Kopp and Levy's³ removal of metallic button from the floor of the nose which had been present for three years. H. S. Birkett, M.D.,⁵ reports removal of a tailor's thimble from the nasopharynx which had been present for eighteen years.

The literature is replete with records of nasal foreign bodies of all types. Foreign bodies in the nasopharynx are rather rarely reported, however. I was only able to find a record of one case similar to the one which I am reporting. This was by H. G. Hadley⁴ in 1940.

Hadley states, "No doubt there have been many

foreign bodies removed from the postnasal space. It would seem possible that when a foreign body caused coughing or vomiting it might be forced up, back of the palate. If it were of a size or shape such as to become lodged there it would cause considerable trouble.

"In the literature there appears to be no statistics dealing with foreign bodies in this location. Published reports from the various clinics apparently deal only with foreign bodies requiring endoscopic removal.

"Where operations have been performed in that area, or postnasal packs used for hemorrhage,



Fig. 1. Photograph of the postero-anterior view of the paranasal sinuses showing considerable clouding of the right maxillary and ethmoid sinuses, but no direct evidence of the impacted foreign body in the posterior nares.

physicians must often search for materials left accidentally, especially where there is a foul odor, chronic discharge, or obstruction or nasal bleeding to call attention to the possibility."

Hadley's case was a four year old white male child seen in April, 1939, who "according to the history had a choking spell eight weeks previously after having placed a rubber dart shield, 4 cm. in diameter, in his mouth. He was immediately rushed to a physician who looking into his throat saw nothing, and noted that he was not coughing, and could swallow without difficulty, concluded that the object had been swallowed. A nose and throat surgeon was consulted who gave the same opinion apparently, however, without having examined the child. There was present from that time, nasal obstruction one-sided, purulent discharge, and considerable foul

odor. There was difficulty in breathing, noted at night with a snoring noise. He was taken for medical examination twice during the intervening eight weeks for suspected foreign body, but none was located. Because of his continued symptoms he was seen to determine if the tonsils and adenoids should be removed to relieve the symptoms or whether the father was correct in his opinion that the rubber foreign body might be lodged somewhere.

"The anterior nares were filled with a purulent discharge but because the foreign body had been in the mouth when the choking attack began it was thought quite possible that it was located above the soft palate in the postnasal space. This was found to be true and the foreign body removed quite easily with the finger."

My case differed in a few respects from Hadley's although the foreign bodies were identical and complete cure was the result in both cases. In Hadley's case the sojourn of the foreign body was eight weeks; in mine it was eighteen months; in my case the foreign body was seen in a lateral radiogram of the sinuses, but not positively identified until after removal, where Hadley's report would seem to indicate that his was not visible in x-ray.

L.N. was a twelve year old white male who was first seen in my office on April 13, 1940. His chief complaint was fatigue, headache, nausea, and vomiting, weight loss, and frequent sore throats. The patient states that these symptoms have been present for a period of approximately eighteen months. He was referred by a gastro-enterologist to whom he had been sent for x-ray studies of the gastro-intestinal tract to rule out organic disease of this tract and to explain nausea, vomiting, and the weight loss this patient had experienced. The x-ray studies of the gastro-intestinal tract were interpreted as showing no organic disease. The referring doctor advised the gastro-enterologist that the child also had a discharge from the nose and asked that he have an x-ray study of the sinuses and that he be referred to an otolaryngologist if any evidence of disease was found in the sinuses.

The past medical history on first examination did not even include any history of foreign body related to the development of his symptoms. He seemed to be getting worse gradually without any known cause. The patient and his parents admitted on direct questioning that in November, 1938, eighteen months previously, while playing with a dart gun, he accidentally fired the dart with its rubber suction cup into the throat. He immediately grabbed the stick and pulled the dart out,

but the suction cup was not found. The patient had considerable choking and coughing and some difficulty swallowing for a short time. He was rushed to a hospital in another city and seen by an otolaryngologist, and according to the parents' story, an esophagoscopy was done, x-rays of the chest were taken; these as well as the esophagoscopy were found to be negative. The parents were advised that the child probably had swallowed the foreign body and were instructed to watch the stools for the appearance of the foreign body. After a careful watch for a period of about three weeks, no foreign body was passed; the matter was forgotten on the part of the parents. However, in retrospect, they admit that about that time the patient developed a "cold" from which he had not completely recovered to date. He had had increasing amount of postnasal discharge, a foul smelling discharge from the nose. He has been seen by his family doctor several times. In November of 1939 the family doctor recommended and did a tonsillectomy and adenoidectomy for relief of these symptoms. There was no mention made of any digital exploration of the nasopharynx and of course no foreign body was found. The patient's symptoms were not relieved by the removal of his tonsils and a "fairly large adenoid mass," reported by the family doctor.

Examination revealed an emaciated white child with a definitely foul, purulent discharge from both sides of the nose. Accompanying the child were some x-rays which revealed some evidence of chronic maxillary sinusitis and a chronic ethmoiditis. At this time no further interpretation was made of these plates; however, at a later date there was a small, very thin, shell shaped shadow seen in the nasopharynx, which could not be accounted for on the basis of normal structures. Examination of the nose after vasoconstriction and removal of the secretion by capillary suction disclosed at the posterior end of both inferior turbinates, a gray, rather firm, mass which did not bleed on palpation, was not particularly tender, and which had a peculiar doughy feel on palpation by catheter. The ears were essentially normal.

The patient was sent to the hospital where on April 8, 1940, under sodium pentothal anesthesia, exploration of the nasopharynx was done and the foreign body located. The presenting portion of this foreign body to the examining finger was the edge of the cup which indicated that the foreign body had been forceably impacted in the posterior nares. The cup was grasped with a heavy mouse toothed tonsil forceps and, using

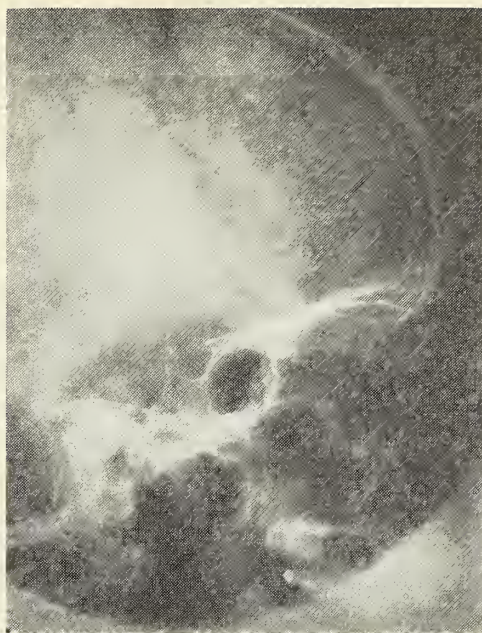


Fig. 2. Photograph of the lateral view of the paranasal sinuses showing a profile view of the foreign body (rubber suction cup) impacted in the floor of the posterior nares and extending into the nasopharynx.

the finger as a fulcrum, the foreign body was freed with considerable difficulty. It was delivered into the nasopharynx and out through the mouth, intact. Examination of this foreign body then revealed a hard rubber suction cup, commonly used on the so-called dart types of toy guns. This foreign body was moderately corroded but intact. The bleeding which followed its removal was about the same amount as that which follows an ordinary adenoidectomy and was easily controlled with thromboplastin and sponge pressure on the posterior nares for a few minutes.

The patient made complete uneventful recovery. His temperature was normal the second day, postoperatively, and he was discharged from the hospital on April 14, 1940. Subsequent examination, six weeks from the date of his discharge, revealed the nose to be entirely clean, no evidence of discharge, the sinuses transilluminated clear, the child's appetite was now normal and he had gained approximately ten pounds in weight. He had lost his emaciated appearance and appeared to be a normal healthy child. The case was contacted by letter again one year following and the parents reported that he was as far as they could tell an entirely normal child, eating well, and had a perfectly normal weight gain.

It is interesting to note that in Hadley's case, the sojourn of the foreign body was of approximately two months, that the discharge was unilateral, and that the foreign body was easily re-

moved by the examining finger in spite of the fact that the child was only four years old. The tightness of the impaction of the foreign body in my case can presumably be explained on the basis of the increased size of the posterior nares of the twelve year old child, permitting a tighter impaction of this foreign body in the posterior nares. Reconstructing events which led to the impaction of this foreign body, it seems probable that the foreign body was first lodged on the posterior pharyngeal wall. By coughing and gagging it was loosened from the attachment and drawn down toward the larynx but was too big to pass through the chink of the glottis. A hard cough apparently forced the foreign body straight back up the pharynx where it followed the curve



Fig. 3. Photograph of two views of the foreign body after removal from the nasopharynx of a 12 year old child, where it had been impacted for 18 months.

of the vault of the nasopharynx, and with the cup acting as a piston, the blast of air drove this foreign body tightly into the posterior nares.

It is also interesting to note that there are some men who still do adenoidectomy without palpation of the nasopharynx. I feel certain that in this case had the nasopharynx been palpated, the foreign body would have been discovered and removed sooner. This case also illustrates the fact that foreign bodies of rubber composition such as this one, can be tolerated for a considerable length of time in the nasopharynx or posterior nares without the production of ear symptoms from obstruction of the eustachian orifices. Perhaps the most important lesson to be learned from this case is the application of Jackson's dictum: "that the x-ray examination for a foreign body in the food and air passages, should start with the vault of the nasopharynx and be continued down to the ischial tuberosities." To this might be added the suggestion that not only x-ray examination should be as complete as possible, but digital examination of the nasopharynx

itself be routine, in cases where a foreign body is suspected but not located by other means of examination.

A case of foreign body (rubber suction cup from a dart) impacted in the posterior nares for eighteen months and presenting in the nasopharynx is reported. The symptoms were referred to the gastro-intestinal tract. Some of the basic principles of a search for foreign body are discussed, and a plea is made to remember these principles in our work as physicians.

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Discussion

Dean M. Lierle, M.D., Iowa City: Doctor Merkel's case is indeed very interesting. He has shown the necessity of a very thorough examination of the nasopharynx and the floor of the nose. Foreign bodies on the floor of the nose near the posterior choana can very easily be missed with a casual examination. I feel, as I know you do, that a complete examination of the nose should include a posterior rhinoscopy and nasoscopic examination. It is interesting to note how rapidly these patients respond following the removal of the foreign body. Unilateral obstruction, discharge and bleeding should make one suspicious of a foreign body in the nose.

Occasionally one may be surprised to find that a foreign body in the lower pharynx had entered the nasopharynx either before or during the pharyngoscopy.

THE BALDRIDGE-BEYE PRIZE AWARD THESIS FOR 1947

PRELIMINARY STUDIES OF BONE DECALCIFICATION

Malcolm K. Campbell, M.D., Iowa City

Numerous articles and several reviews have been written on the subject of decalcification of bone as a necessary preliminary to embedding and microscopic sectioning. Recent thorough reviews in English are those of Jaffe¹ and of Shipley.² One can suppose from the numerous meth-

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ods suggested that the problem has not been satisfactorily solved. Jaffe¹ states that there is no decalcification fluid that will decalcify hard bone without either injuring its nuclear structure or damaging its fibrils.

According to Shipley,² there are two more frequently used types of decalcifying solutions: (1) strong inorganic acids and (2) weak organic acids. The difficulty with the strong acid solu-

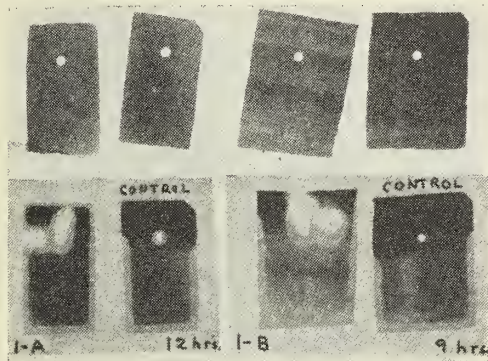


Figure 1

tions is that they "sear" the tissues, causing shrinkage and destruction of the cells. However, decalcification occurs in a short time. Weak acids, on the other hand, produce greater swelling of the fibrils, require long periods to accomplish decalcification, but use of these acids result in better microscopic sections. Jaffe¹ believes that prolonged immersion in weak acids is worse than short intervals in strong acids. The only method other than decalcification used to prepare bone for histologic study is by hand grinding of bone to small, extremely thin discs (approximately 30 microns). This is followed by mounting and staining. This method is slow and laborious, but it is claimed that certain pathologic changes of the ground substance can be demonstrated only by this method.

Preliminary fixation in 10 per cent formalin is considered the best general fixative for bone prior to decalcification.

Advantages and disadvantages of various solutions in use are discussed by both of the above authors. More important among these solutions are nitric acid, hydrochloric acid, sulfuric acid, chromic acid, acetic acid, trichloroacetic acid, Mueller's fluid, and sodium citrate. Nitric acid has been found to be the most satisfactory of the inorganic acids, but for best all around use Mueller's fluid (aqueous solution of potassium bichromate and sodium sulfate) is recommended by both of the reviewers. It preserves better microscopic detail but may require several weeks to decalcify certain specimens.

To speed up the rate of decalcification of the solutions, various physical means have been suggested. It has been known for many years that decalcification is more rapid at elevated temperatures. Therefore, many suggest that the solution should be kept at 37 C., particularly if solutions that act slowly are employed. Richman⁴ states that temperatures above 45 C. cause disintegration of tissue. Frequent agitation is also of value as is repeated changing of solutions. Wilson⁵ employs a vacuum produced above the decalcifying solution. He has found that the bubbles of gas formed about the bone are dislodged so that the solution is in more intimate contact with the bone, and that as the bubbles pass off, the solution is agitated. The most recently suggested physical method is the use of an electric current in an acid solution as described by Richman, Gelfond and Hill.⁴ They attempt to cause the forced migration of positively charged calcium to the negative electrode by immersing bone specimens in acid solution in a platinum wire coil which is positively charged. They have used 8 per cent hydrochloric—10 per cent formic acid solution, and a 6 volt storage battery for current supply. Other solutions, such as those of chromates, organic acids and salts, carbon dioxide, and inorganic salts were used also by them, but best results were obtained with the formic-hydrochloric acid solution in the above concentration. Higher concentration of formic acid or prolonged contact in solution was found to produce tissue disintegration. Their stated usual decalcification time was two to six hours.

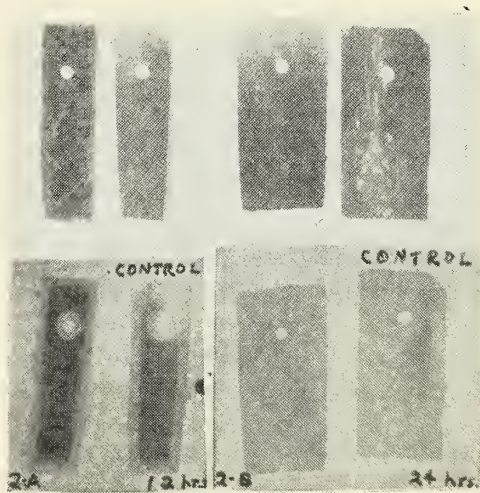


Figure 2

A much more exact method than the usual probing needle for determining when decalcification is complete is by use of the x-ray. Hall-pike⁶ states that x-rays were first used for this

purpose by Herschel in 1908. Hallpike introduced their use for determination of decalcification of temporal bones. Lovenstedt⁷ makes use of this method in determining rates of decalcification of teeth.

In the search to find a more satisfactory method for decalcification, we attempted to set up an apparatus for electrolytic decalcification, as we had heard of this method indirectly before the publication of Richman's article.

Method: Prior to controlled studies of this method, we conducted a series of trials in an attempt to select the best materials, equipment, etc., to use with this process. We used a 10 per cent formic acid and 8 per cent hydrochloric acid solution in all of our work, and our current source

vary the amount of current flowing as measured by a milliammeter. With the hook touching the solution, a current of 500 to 600 milliamperes at 3 to 4 volts would flow, and the current would be decreased as the distance between the hook and solution was increased, until practically no current would flow. It was found by repeated observation that the amount of current flowing would remain fairly constant over many hours if platinum electrodes were used. The other electrode consisted in a platinum wire basket-coil in which specimens could be placed and the entire electrode immersed in solution. With this arrangement the current flowing was maximum at all times, and varied between 500 to 600 milliamperes at 3 to 4 volts.

Over a period of several months a number of trials were made with the above apparatus, and good results were obtained in the decalcification of various bony tissues, especially bone that was primarily cancellous. Specimens could usually be decalcified in several hours, and on section, the histologic structure and cytologic detail was much more satisfactorily preserved than with the method in use (formic acid). However, dense cortical bone required longer than 12 to 18 hours and even then sectioned with considerable difficulty. Microscopic sections were only fair as there tended to be considerable fragmentation of pieces in the section.

It was decided, therefore, that a controlled study should be undertaken of this electrolytic method of decalcification, using cortical bone since it presented the most difficulty in decalcification. The aims of this study were to determine if cortical bone was decalcified more rapidly by placing it on a positive electrode in the acid solution than by simply immersing it in the same or similar solutions for the same length of time. The determination of relative efficiency of the hook and basket-coil type positive electrode mentioned above were also to be tested. Finally, the effect of mechanical agitation of the solution was to be determined.

Cortical bone was obtained from the amputated femur (supra-condylar) of an 85 year old white male patient suffering from arteriosclerotic gangrene of the feet. Bone was fixed in 10 per cent formalin within one hour after amputation, and allowed to fix for one week. Strips 2.5 cm. long were cut from this bone and ground to 3 mm. thickness. The width varied, but the specimens of bone were paired and ground so that both were of exactly the same dimensions. Control sections were ground with a nick in one edge so that they could be identified. The electrodes were attached to a timing device, enabling the specimens to be

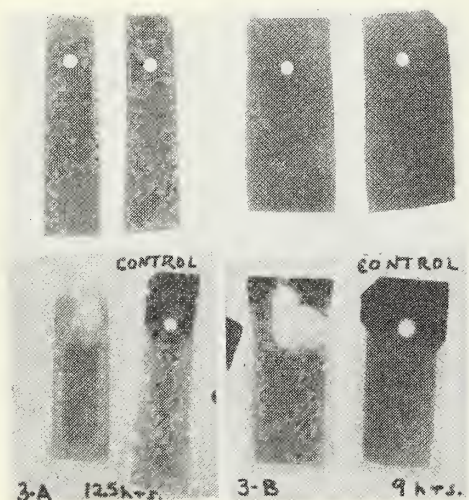


Figure 3

was a dry disc rectifier which supplied 9 volts of pulsating direct current at 0 milliamperes. We encountered the same difficulties in finding a suitable electrode, and after trying iron, copper, silver, lead, vitallium and platinum, found that platinum withstood the action of the acids far better than any of the other metals, and we have used platinum for both positive and negative electrodes since. A standard amount of decalcifying solution, 1200 ml. was used in all of our trials. In order to determine when this solution was losing its strength, an indicator (cresol red) was found that had a color change in the pH range 0.2 to 2.0 (pinkish red to orange yellow).

Bone was attached to the positive platinum electrode in two ways in our trials. At first bone was suspended on a platinum wire hook so that the lower two-thirds was immersed in solution but so that the wire itself was not in direct contact with solution. By varying the distance between the hook and the solution level, we could

removed from the solution and transferred to a washing solution after a definite interval. A glass hook was attached to the side of the electrode clip and on this the control bone specimen was placed so that it was approximately 2 cm. from the specimen on the electrode. Agitation was accomplished by an electrically rotated flattened glass rod im-

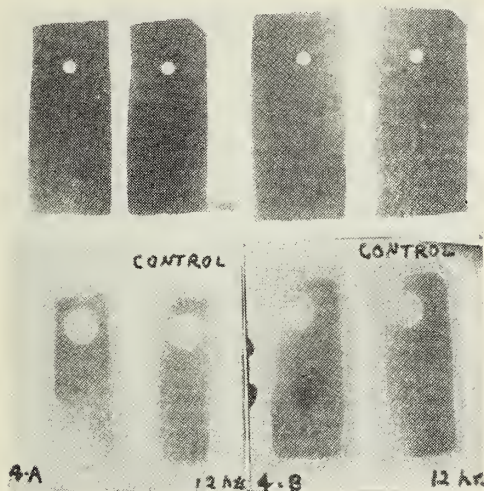


Figure 4

mersed in the solution. Before and after immersion x-ray photographs were taken of the specimens. Specimens were at 30 inch distance from the tube, with 38 K.V.P., 10 ma., and 9 second exposure. The solutions were kept at room temperature.

With each variation in the experimental procedure, two pairs of specimens were run, designated "A" and "B." (The various trials have been numbered so that the numbers on the accompanying illustration showing results of the experiment correspond to the number of the trial described below.)

1. A and B: Platinum wire hook; "A" immersed 12 hours and "B" immersed 9 hours; 200-250 milliamperes.

2. A and B: Platinum wire basket-coil; "A" immersed 12 hours and "B" immersed 24 hours; 500-550 milliamperes.

3. A and B: Platinum wire hook; "A" immersed 12.5 hours and "B" immersed 9 hours; solution agitated; 200-250 milliamperes.

4. A and B: Platinum wire basket-coil; "A" and "B" both immersed 12 hours; solution agitated; 500-600 milliamperes.

5. A: Platinum basket; 12 hour immersion; control specimen immersed in separate beaker containing same amount of same solution.

Results

Extent of decalcification was determined by gross observations, particularly of the peripheral zone of the specimen where the x-ray revealed that decalcification began (see illustration). Measurement of the narrowest band of decalcification in the lower one-third of the specimen was done. See Table 1 for these results:

1. A and B: Decalcification was about equal in both pairs of control and experimental specimens. It will be noted that with the use of the hook electrode that the upper one-third of the specimen does not contact the solution and that decalcification here is quite spotty, occurring especially around the hole in which the hook was placed. It will also be noted that the area about the hook has disintegrated to a great extent, often necessitating the boring of another hole so that the bone could be suspended for the full nine to twelve hours. The difference in the extent of decalcification at nine and twelve hours is quite small.

2. A and B: Decalcification was about the same in the control and experimental specimens. B was inadvertently left in solution twenty-four hours instead of the planned twelve, and it will be seen that decalcification is almost complete. Comparing 1-A and B with 2-A, it is seen that during the same length of time decalcification progressed equally rapidly in the area in contact with the solution despite the fact that different electrodes were used.

3. A and B: Decalcification was again about the same in both the control and the experimental specimens. It will be noted that there was slight-

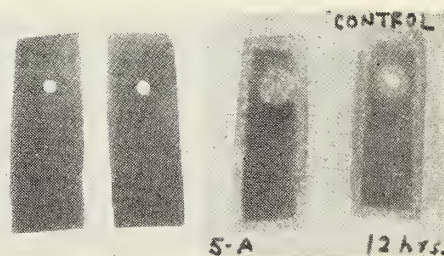


Figure 5

ly more decalcification in the specimens immersed twelve hours than those immersed only nine hours. Comparing 1-A and B with 3-A and B, one cannot observe too much difference in the extent of decalcification from solutions that were and solutions that were not agitated.

4. A and B: Decalcification was about the same in both the control and the experimental specimens. Comparing 2-A with 4-A and B, one can observe slight difference in the extent of decalcification from solutions that were and solutions

that were not agitated. Comparing 3-A and 4-A and B, it would seem that decalcification was about the same in areas in contact with the solution, despite the fact that different electrodes were used.

5. A: Again decalcification was approximately equal in both the experimental and control specimens, and compared to other specimens that were immersed for 12 hours, these specimens were decalcified to about the same extent. In testing both solutions afterward, the indicator revealed that the pH of the solution through which the current had flowed had increased considerably, whereas the pH of the control solution was approximately unchanged.

TABLE 1

Width of Narrowest Band of Decalcification in Lower One-third of Specimen

Number	Electrode	Hours	Control	Experimental
1-A	hook	12	1.4 cm.	1.4 cm.
1-B	hook	9	1.5 cm.	1.5 cm.
2-A	coil	12	1.4 cm.	2.4 cm.
2-B	coil	24	2.4 cm.	2.4 cm.
3-A	hook	12.5	1.8 cm.	1.8 cm.
3-B	hook	9	1.4 cm.	1.4 cm.
4-A	coil	12	1.8 cm.	1.8 cm.
4-B	coil	12	1.7 cm.	1.7 cm.
5-A	coil	12	1.4 cm.	1.4 cm.

Discussion

It would seem from the results obtained that placing cortical bone specimens at the positive pole of an electrode in a decalcifying solution does not hasten the process at all, at least when the above current is used. Decalcification seemed to proceed at about the same rate in all specimens as evidenced by x-ray observation of specimens at nine, twelve, and twenty-four hours. The type of electrode used caused little difference in the rate of decalcification, but use of the hook had marked disadvantage of rendering the upper one-third of the specimen useless for further study. Agitation by an electrical stirring device seemed also to have only slight effect on the rate of decalcification. One can speculate as to whether more violent agitation, or motion of the bone itself might not have caused the decalcification to proceed more rapidly.

The question was raised as to whether immersion of the cortical specimens in the same acid solution was an adequate control, and whether such a control might be affected in some way by the passage of current through the solution. Consequently a pair was run with the control in a separate beaker containing the same concentration and amount of acid solution, and the results indicate quite definitely that decalcification proceeded at approximately the same rate in both solutions. All of the results obtained in this experiment seem to point to the fact that the amount and rate

of decalcification of cortical bone in an acid solution depend largely on the chemical characteristics of the solution rather than upon various physical changes attempted. Of course, other physical variables exist, notably that of temperature, and others such as direct agitation of the bone specimen, the size of the specimen, etc. However, it does seem fairly well demonstrated that electric current has little if any influence on rate or amount of decalcification. The chemical variables have been quite thoroughly explored by numerous investigators, but no reports have been found in which the x-ray was employed to study the effects of various decalcifying agents in different concentrations on identical bone specimens. Concentration of the two acids used in this study was not varied because the report of Richman⁴ stated that this had been done by them and that the 8 per cent-10 per cent combination was found to be optimal.

One must always keep in mind that the decalcification is not an end in itself, but only a step in the process of preparing the tissue for microscopic observation. Therefore, tissue structure must not be altered any more than absolutely necessary in such a process as decalcification. The great appeal of this method of electrical decalcification to us was that it produced excellent sections. Despite the fact that the electric current apparently had little effect, the formic-hydrochloric acid solution still remains a very effective agent for decalcification of bone specimen, and should be critically compared with other solutions in common use.

Summary and Conclusions

1. A brief review of the problems of bone decalcification and the various agents and methods used is presented.

2. The recently proposed electrolytic decalcification method is discussed in more detail and our experience with it reviewed. Excellent histologic detail in sections of various types of bone were obtained.

3. Results of a controlled study of rate of decalcification of cortical bone as determined by x-ray reveal that the rate is not significantly increased by passage of a pulsating direct current through the solution with the bone specimen attached to the positive platinum electrode. Two types of platinum positive electrodes were used with the same results.

4. Agitation by an electrical stirring device did not markedly increase the rate of decalcification of cortical bone.

5. The rate of decalcification seems to depend

to a great extent upon the chemical qualities of the solution in which it is immersed.

6. Ten per cent formic acid—8 per cent hydrochloric acid solution deserves a critical test of its ability to decalcify as compared with other solutions in common use.

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College of Medicine State University of Iowa CLINICOPATHOLOGIC CONFERENCE

April 23, 1948

Summary of Clinical Record

The patient, a 65 year old fur skinner, was admitted to the hospital Dec. 2, 1947. The history was obtained from his wife. His health had been excellent in the past. On Nov. 10, 1947, he began his usual winter occupation, which consisted of skinning fur-bearing animals such as beaver and mink. November 19 he complained of poor appetite, trembling of his hands and lower jaw, and generalized aching. His wife then noticed a "sore" on his right index finger. He had made no mention of any injury, nor had he been bitten by any of the rats about his place of work. He attempted to work that day, but was forced to return home because of the trembling, drenching perspiration, and nausea. Chills and profuse sweating were observed once or twice on each succeeding day, and his appetite remained poor.

On November 25 blood samples for agglutination studies were obtained and reported negative for typhoid, tularemia, and brucellosis. Treatment with a sulfonamide was begun, but his general condition steadily became worse. The temperature was 103 F. daily. On November 30 penicillin administration was begun. On December 1 he became irrational, incontinent of urine, and generally weaker. Rales were present in both lung fields.

Physical examination upon admission to the hospital on December 2 showed a well-preserved, elderly, white male who was stuporous, unable to speak, and poorly responsive to commands. He was so dyspneic that the accessory muscles of respiration were used. The temperature was 103 F., and the respirations 40 per minute. The pupils were contracted and failed to react to light. The oral mucous membranes were dry and the tongue was parched and cracked. An area of flatness to percussion over the right lung base posteriorly shifted with changes in the patient's position. The left lung base was somewhat dull. Numerous harsh crackling rales were heard over the entire chest at the height of inspiration. These were especially well heard over the right base posteriorly. The heart exhibited complete irregularity in rhythm. The radial pulse rate was 86 beats per minute compared to the apical rate of 120. No enlargement was evident, nor were any murmurs detected. The blood pressure measured 100/50. Examination of the abdomen revealed no masses nor palpable solid organs.

On the dorsum of the right index finger at the level of the first interphalangeal joint there was a raised, crusted lesion 1 cm. in diameter. It was covered with a dark brown eschar and surrounded by moderate edema. In the right antecubital fossa a superficial red streak led to a hard nodule in the epitrochlear area.

The laboratory findings were as follows: hemoglobin 14 gm. per 100 ml., erythrocytes 4,530,000 and leukocytes 11,000 per cu mm. A urine specimen was not obtained. The blood urea nitrogen was 88 and the creatinine 5.0 mg. per 100 ml. A portable x-ray film of the chest showed an increased density in the left midlung field and significantly widened mediastinal shadows.

Treatment consisted of streptomycin 0.5 gm. intramuscularly every three hours, intravenous and subcutaneous infusions of normal saline and 5 per cent dextrose, and oxygen. After a short period of general improvement, his condition grew rapidly worse and he died December 3 within twelve hours after admission.

Clinical Diagnosis

Tularemia.

Necropsy Findings

There was a small crusted ulcer of the dorsum of the right index finger at the proximal interphalangeal joint (fig. 1). A large necrotic right epitrochlear lymph node was present, and the right axilla contained a large mass of necrotic lymph nodes. Both lungs were involved by ex-

tensive confluent lobular pneumonia with many necrotic foci, and there was an acute fibrinous pleuritis with hemorrhagic effusion bilaterally (fig. 2). The intrathoracic lymph nodes, and the liver, spleen (fig. 3) and the adrenals (fig. 4) contained many miliary necrotic foci. A mild peritonitis was present, involving chiefly the pelvis and upper left abdomen. *Pasteurella tularensis* organisms were cultured from ulcer exu-



Fig. 1. Ulcer on index finger.

date, lymph nodes, lung, spleen, and pleural fluid. Blood cultures were negative. The blood serum agglutinated *Pasteurella tularensis* at a dilution of 1:640. Incidental findings include old pleural adhesions, hyperplasia of the prostate, a chromophobe pituitary adenoma, and an adrenocortical adenoma.

Necropsy Diagnosis

Tularemia, ulcero-glandular and disseminated, with:

Ulcer right index finger.

Acute necrotizing cellulitis, right epitrochlear, right axillary and intrathoracic lymph nodes.

Necrotizing confluent lobular pneumonia, severe, bilateral.

Acute fibrinous pleuritis, with effusion, bilateral.

Focal necrotizing cellulitis of liver, spleen, and adrenals.

Acute peritonitis, focal, mild.

Cardiac hypertrophy and myocardial fibrosis, mild.

Arteriosclerosis, generalized, moderate.

Acute ulcerative esophagitis, mild.

Hyperplasia of prostate.

Cortical adenoma, right adrenal.

Chromophobe adenoma of pituitary.

Pleural adhesions, old, bilateral.

Dr. Jack Gordon (Internal Medicine): The patient was admitted some two weeks after the onset of an acute illness characterized by an ulcer

on the finger, chills, and fever. In spite of sulfonamide therapy, and later penicillin, he continued a septic course, went down hill rapidly and expired shortly after coming to this hospital.

What are some of the possible diagnoses? Sporotrichosis is characterized by a superficial ulcer and lymphadenitis, but it is seldom an acute disease, and there are nodules along the lymphatics. Rat bite fever was considered. However, this disease runs a remitting course, with a febrile period of three days and then a remission for three, six, or even nine days. In addition, a rash usually appears which this man did not demonstrate. Anthrax was considered, but the malignant pustule of anthrax is characterized by great edema. Edema was not a significant feature of the ulcer here. The clinical diagnosis was tularemia because this man was a fur handler, he had an ulcer, he had lymphadenitis, he ran a septic course and he developed pulmonary lesions. An agglutination test, performed about a week after the onset of the disease, was negative for tularemia; but we disregarded this because agglutination reactions for this disease do not become positive until after ten days. We conjecture that a blood culture taken at this time might have been positive for *B. tularensis*.

Dr. C. L. Gillies (Radiology): This is a portable film taken before death. It shows a diffuse bronchial pneumonia in both bases with definite enlargement of the hilar nodes bilaterally. These are not diagnostic themselves, but do occur with tularemia, particularly the enlargement of the hilar nodes as well as the bronchial pneumonia. The x-ray findings are entirely compatible with the clinical impression of tularemia.

Dr. A. P. McKee (Bacteriology): We received two ante-mortem cultures on this patient and from both of these we were able to isolate *Pasteurella tularensis*. As autopsy specimens, we received pleural fluid, swabs from the ulcer of the right index finger, spleen, right lung tissue and the epitrochlear lymph node. From all of these we were able to isolate *Pasteurella tularensis*. Although we had previously decided not to use animal inoculation any more for isolating this organism, we did include the procedure in this case because we were particularly anxious to positively establish the diagnosis. Isolating *Pasteurella tularensis* by animal inoculation is the most certain method, but is also very risky for the laboratory investigator. We succeeded in isolating the organism both by direct culture from the patient on blood glucose cystine medium and by animal inoculation. The organism was positively identified by its failure to grow without cystine and

serologically by agglutination with *Brucella abortus* adsorbed specific antiserum.

Blood from this patient showed an agglutinin titer against *Pasteurella tularensis* of 1:640 and against *Brucella abortus* of 1:160, which is not an uncommon occurrence; that is, the organisms are antigenically related. After adsorption of the patient's serum with *Brucella abortus*, it no longer

evolved a technic which we thought was quite foolproof. It consisted of inoculating the animals and putting them into an airtight container from which we exhausted the used air through phenol and sulfuric acid to permit no passage of droplet nuclei. We place a seven days' food and water supply with the animals and test the seal of the glass jar in which we have placed the animals to be sure that there is no leakage. When they are ill and *in extremis*, we open this jar with due precautions of masking, wearing rubber gloves and providing for terminal disinfection. In spite of all those precautions that we took, the investigator managed to become infected.

One could surmise that the organism might enter through a bite by one of the lice that are found on mice except that in every case where the disease proved to have been caused by some insect vector, the disease was the ulceroglandular or the glandular variety, whereas the laboratory workers get the typhoidal variety. It might be that the individual breathes in some of the droplet nuclei. If so, then they did go through the mask. However, other people going into the room who didn't contact the animals, failed to get it, which again leaves the source of infection in this case pretty much of a mystery.

Dr. F. W. Stamler (Pathology): The problem of the infectiousness of the disease has interested me, too, because I did the autopsy. I am sure that if the human material was as highly infectious as the laboratory animal appears to be, it

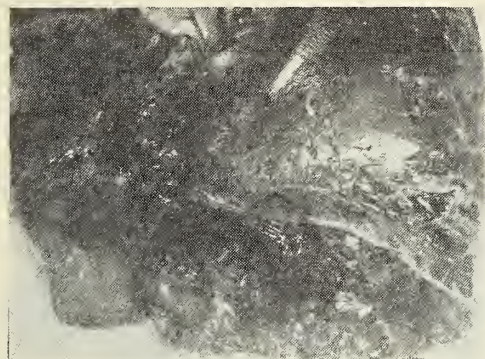


Fig. 2. Fibrinous pleuritis.

agglutinated *Brucella abortus*, but still agglutinated *Pasteurella tularensis* to a titer of 1:320. The agglutinin titer is significant in view of the fact that the earlier agglutination studies were negative. A definitely rising antibody titer and a positive culture, from a bacteriologic point of view, makes the diagnosis unequivocal.

We might add that this case might be considered a little unusual in that we came about as close to fulfilling Koch's postulates on this case as you usually do anymore. The organism was recovered from the original source, the tissue was inoculated into the animal recovered, and re-identified, and subsequently, the investigator became infected. The latter's agglutinin titer against *Pasteurella tularensis* was zero when he went into the hospital and two weeks later was 1:1280. Agglutinin titer against *Brucella abortus* was less than 1:20. We didn't isolate the causative agent in this case, but because of the unusual specificity of the agglutination reaction in tularemia there could be little doubt. In fact, in tularemia you can trust the serology almost without exception providing you have a rising titer and rule out brucellosis. In this case you have this additional evidence that the disease is passed from man to animal, and from animal back to man.

The question is often raised as to how a laboratory worker becomes infected. I haven't the slightest idea. The first conclusion one would come to is gross carelessness. However, we go through "the seven labors of Hercules" to keep from becoming infected with this organism. We



Fig. 3. Spleen—note foci of necrosis.

would have been rather widely disseminated in our department. As a matter of fact, the morgue attendant happened to have a scratch on his finger which I noted afterward, and I watched that with considerable interest for a number of days, but nothing came of it. I would like to ask Dr. McKee if there is any evidence that the human form of the disease is less pathogenic for man.

Dr. McKee: Humans do not seem to get the infection from other humans but from animals. Why passage through mice or other laboratory animals should make it particularly virulent for man, I haven't the slightest idea. The laboratory animals are extremely susceptible as compared to man, but why that should be remains a question I am sure I can't answer.

Dr. R. C. Hardin (Internal Medicine): Tularemia is not too uncommon in our experience here in the hospital since it seems to be ever present with us in the state. There are a few interesting things about it and important things which should be noted. The diagnosis is not usually difficult.

Practically all of the patients have gotten the disease from some animal. In most instances that is the common cottontail rabbit. The disease is present every year in animals, but there are epidemics among animals, and the incidence of human tularemia correlates with the epidemics among the animals. A good many animals other than rabbits, such as the coyote, the fox, the ground squirrel, the grouse, and the pheasant can carry tularemia.

The disease is clinically divided into four groups which are in reality three. There are the ulceroglandular type with an ulcer of the skin with enlarged regional lymph nodes, the oculo-glandular (the same disease with the ulcer in the conjunctiva), the glandular type in which there is no ulcer, but in which there is generalized lymphadenopathy, and the typhoidal type which is confined almost universally to laboratory workers.

The thing about tularemia that is usually overlooked and is of importance clinically is that it is not just an ulcer with regional lymphadenopathy. It is a generalized infection. The autopsy specimen seen here with the tubercle-like lesions on the liver and spleen as well as in other organs are an example of what goes on in every case in the animal as well as in the human. The important part about the generalized infection is the incidence of pulmonic diseases. It used to be thought that people who died with tularemia died of pneumonia and that the appearance of pneumonitis was a bad prognostic sign. We know now that 50 per cent of the people with tularemia have clinically apparent pneumonia and that 95 per cent have evidence of pneumonitis which can be picked up on x-ray so that we must regard pneumonitis in tularemia as part of the disease and not a complication. Practically every organ in the body can be involved, as we saw here.

The diagnosis in the patient should rest first on the history because the patient first must have

had a contact and, as has been pointed out, it is contact with animals and not other humans. There is history of contact with a sick animal followed by an ulcer at the site of contact. The patient, however, is sick for about forty-eight hours with a high fever before the ulcer appears. A blood culture taken at this time will usually be positive. The agglutination titer, as you saw in this case, does not begin to rise until after the first week, usually about the tenth or fourteenth day. There is ordinarily a cross agglutination with brucellosis and typhoid fever, so that the rising titer is the important feature of serologic tests. The septi-



Fig. 4. Adrenals, cross section—note foci necrosis.

cemia or bacteremia that these patients have disappears unless they become moribund as in this case. The patient who dies with tularemia will have, almost without exception, septicemia. The pneumonitis may disappear completely or it may be complicated as in this instance with pleural effusion or empyema and in those cases there is a considerable scarring of the lung if the patient recovers. When one encounters evidence of scarring in the lung on routine physical examination which cannot be explained, it is well to think of tularemia, and since the agglutinations for tularemia persist for years and years, one can often prove that this scarring of the lung is the result of tularemia.

The treatment of the disease at present is streptomycin. There were other measures used in the past; namely, Foshay's serum, with which there was little success by other individuals than Foshay. Foshay was the first one to publish any number of cases treated with streptomycin, and I think it is sufficient to say that his own conclusions were that streptomycin was better than the serum.

Dr. E. D. Warner (Pathology): Is anything known yet about the effect of streptomycin on the persistence of the agglutinations?

Dr. McKee: I do not know the effect of streptomycin on the subsequent antibody titer. I in-

(Continued on page 269)

STATE DEPARTMENT OF HEALTH

Walter Biering

NUMBER OF CHILDREN OF SCHOOL ENTRANCE AGE IN IOWA

The number of births occurring in Iowa each year has fluctuated a great deal since 1940. This fact certainly will have profound implications for the schools of Iowa.

	Births	Number of Children Surviving to Five Years of Age	Year of School Entrance
1940	45,433	43,463	1945 or 1946
1941	46,825	44,841	1946 or 1947
1942	49,235	47,230	1947 or 1948
1943	48,209	46,377*	1948 or 1949
1944	46,914	45,178*	1949 or 1950
1945	45,265	43,680*	1950 or 1951
1946	57,202	55,257*	1951 or 1952
1947	65,000	62,855*	1952 or 1953

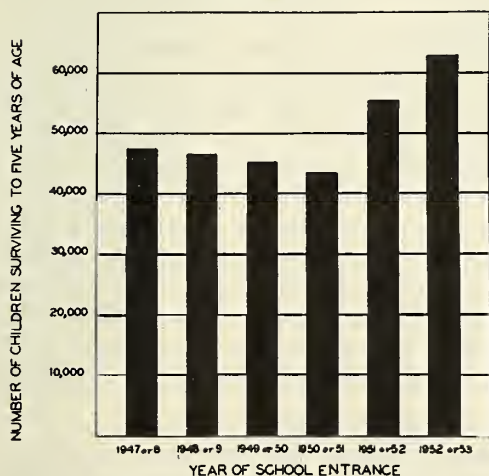
*Based on projected death rates among children.

At present the number of children of school entrance age is 5.3 per cent greater than last year; this is a result of the large number of births in 1942. What is to be expected in the next few years is summarized in the following table:

Year	Percentage increase or decrease over the present (1947-48) in the number of children 5 years of age
1948-49	1.8% decrease
1949-50	4.3% decrease
1950-51	7.5% decrease
1951-52	17.0% increase
1952-53	33.1% increase

After three years of slightly declining numbers

NUMBER OF CHILDREN OF SCHOOL ENTRANCE AGE IN IOWA



(Based on Births and Projected Death Rates Among Children)

IOWA STATE DEPARTMENT OF HEALTH
DIVISION OF VITAL STATISTICS
DES MOINES, IOWA

of five year olds, the trend will be sharply reversed and by 1952-53 there will be one third more children of school entrance age than there is at present.

These factors have significant implications for any school planning that may be undertaken. If facilities are adequate at the present time, they will continue so for about three more years, but at the end of this three year period additional facilities will be a prime necessity.

It should be recognized that this prognostication has many limitations, particularly as applied to local school systems. In or out migration may be of greater significance than birth and death data in determining the number of children of school entrance age. However, when viewed from the standpoint of the entire state, we may be confident that the above data gives a reasonably accurate indication of the number of children who will be entering the schools of Iowa in the next few years.

ANNOUNCEMENT

Since the resignation of Dr. R. M. Sorensen, Director of Venereal Diseases, on March 31, 1948, Dr. Edmund G. Zimmerer of the State Department of Health will serve as Acting Director until a new director has been appointed.

All communications should be directed to the Division of Venereal Disease Control, State Department of Health.

SUMMARY OF IMMUNIZATION PROGRAMS IN IOWA, 1939-1947

In 1939 the Committee on Maternal and Child Health and the House of Delegates approved a program for a campaign for smallpox vaccination. In 1942 diphtheria immunization was included. The program has been operating for nine years.

These programs are approved by the county medical societies and conducted by its members and sponsored by local Parent-Teacher Associations, Farm Bureau Women, Federated Women's

Clubs, Red Cross Chapters, school officials and public health personnel.

Programs were done in 85 counties in 1939, 85 in 1940, 81 in 1941, 65 in 1942, 81 in 1943, 78 in 1944, 67 in 1945, 68 in 1946 and 63 in 1947.

Immunization programs were provided annually in 33 counties (9 programs). Twelve had 8, 11 had 7, 17 had 6, 9 had 5, 6 had 4, 5 had 3, 3 had 3. Only two counties had no programs.

During this nine year period 1939-1947, the Department has provided biologicals to immunize 380,400 children against diphtheria and 380,900

During the nine year period prior to 1939 the annual average of reported cases of diphtheria and smallpox were 446 and 1,196 respectively.

There have been no old time high peaks in incidence of diphtheria cases since 1938 or in smallpox since 1937. Because of the low prevalence of these diseases there is less possibility of natural immunity being produced by recovery from acute or subclinical infections by exposure to carriers, cases in the incubation period, unrecognized, subclinical and nonisolated cases. There also will be fewer babies born with passive immunity to diphtheria obtained from the mother's blood. The low prevalence of these diseases will eliminate one of the factors that stimulated parents to voluntarily request immunization of their babies and children.

We who are concerned with the control of these diseases must not relax in our efforts to inform parents the need of immunization early in life and the administration of a booster dose before starting school.

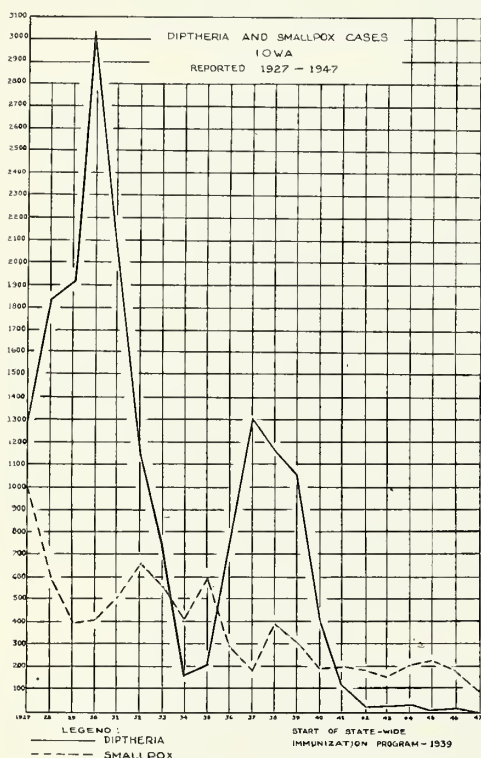
SEASON FOR TICK-BORNE DISEASE

Arrival of another warm season brings to life a host of wood ticks, the best known species in this area being the common dog tick, *Dermacentor Variabilis*. Ticks usually abound in wooded areas, whether on farms or near the edge of cities and towns; also among weeds along roadside ditches. According to entomologists, ticks are more numerous in periods of damp weather than during a dry season. Ticks are dependent upon small mammals for development through the larval and nymphal stages. Dogs that have access to woods and timberland serve as host for mature, male and female ticks, bringing these into the home environment of farm and urban households.

Two tick-borne diseases, possible occurrence of which need to be kept in mind during the months of spring, summer and early autumn, are Rocky Mountain spotted fever and tularemia. Surveys carried out in past years under direction of the State Department of Health in cooperation with the U. S. Public Health Service have demonstrated the virus of spotted fever and *Bacterium tularense* in batches of ticks collected in various sections of Iowa, notably Clarke, Polk and Iowa counties. Fortunately the percentage of ticks which harbor infection seems to be very small.

Rocky Mountain Spotted Fever

Among cases of spotted fever which were reported to the Department in 1947, two were of special interest. A small boy on a farm in Appanoose County developed fever, neck stiffness and



against smallpox. Assuming that at least an equivalent number of children received immunization in private practice and other programs, there would be a total of 760,000 children immunized against diphtheria and smallpox. This is well over the total number of 428,727 births recorded during the same nine year period. This excess of immunizations over births can be considered a factor to account for the declining number of reported cases of diphtheria and smallpox.

During the nine year period of the program the annual average of reported diphtheria and smallpox were 195 and 189 respectively. However, in the last seven years the averages were 164 and 53 respectively. In 1947 they reached their lowest level. One hundred cases of diphtheria were reported and only 3 smallpox.

pain in legs. Several days after a macular rash appeared on wrists and ankles, later becoming generalized. The child's parents had removed a tick from his scalp a few days before illness. Diagnosis of Rocky Mountain spotted fever was made by the attending physician. The patient recovered promptly; improvement was noted following treatment with hyperimmune rabbit serum. The farm where this boy lived was in a hilly, heavily timbered area, the best approach being from a highway in northern Missouri. Some ticks were removed from a dog in this farm home, adding further evidence to the tick-borne nature of illness.

A farm lad in Scott County developed sudden illness at about the same time as the boy in Appanoose County and with similar complaints. The presence of a macular rash (spots being about match-head size and discrete) and the history of recent tick bite, led to an early diagnosis of spotted fever by the attending physician. In this instance, also, hyperimmune rabbit serum was administered with apparent benefit. A blood specimen from this patient was sent to the State Hygienic Laboratory and found to be strongly positive by the Weil-Felix agglutination test. The farm concerned is quite isolated with much timber land. Two large dogs may have played a part indirectly by bringing ticks close to the household, thus increasing the hazard of tick exposure.

Tick-borne Tularemia

Illness is characterized by fever, malaise, prostration (depending on severity of infection), ulceration at the site of tick bite, with tenderness and swelling of regional lymph glands. These symptoms and signs, without any rash, suggest strongly an infection caused by *Bact. tularensis*.

Clinical diagnosis is readily confirmed by the agglutination test which may be negative during the first ten days to two weeks but usually shows positive reaction when a second or third serum specimen is sent to the laboratory.

Spotted Fever Vaccine

Chick embryo vaccine secured from the Rocky Mountain Laboratory of the U. S. Public Health Service at Hamilton, Mont., is available for distribution to physicians, without cost, from the State Department of Health. This vaccine for active immunization against spotted fever is intended for individuals subject to frequent exposure to ticks in areas where the disease is known to be endemic.

Reporting of Cases

Physicians who may have occasion to observe suspected cases of Rocky Mountain spotted fever and tularemia are requested to notify the State Department of Health.

PUBLIC HEALTH POSITIONS AVAILABLE

At the present time the army has six public health positions available, one in Germany and five in Japan. These positions are civilian jobs under the protection of civil service, although they do not give permanent civil service status to the incumbents. They are rated under the civil service scale at P-6, the pay for which is \$7,102.20, augmented by a 25 per cent overseas differential, making a total annual salary of \$8,877.75. In addition, the government pays transportation both ways. Further information may be obtained through Personnel & Training Branch, Department of the Army, Pentagon, Washington 25, D. C.

MORBIDITY REPORT

DISEASES	Apr. '48	Mar. '48	Apr. '47	Most Cases Reported From:
Diphtheria	0	8	2	
Scarlet Fever	123	157	145	Dubuque, Franklin, Polk
Typhoid Fever	1	4	4	Buchanan
Smallpox	0	0	0	
Measles	1,938	2,370	859	Blackhawk, Dubuque, Clinton
Whooping Cough	38	76	54	Des Moines, Howard, Linn
Brucellosis	9	38	33	Scattered
Chickenpox	465	569	336	Des Moines, Dubuque, Linn, Greene
German Measles	5	3	5	Dubuque (3), Mahaska (2)
Influenza	1	13	6,273	Woodbury
Malaria	1	1	1	Polk
Meningitis	6	3	8	Scattered
Mumps	477	529	67	Dubuque, Johnson, Linn, Polk
Pneumonia	14	14	20	Blackhawk, Fremont, Polk
Polio-myelitis	6	8	1	Woodbury (2), Kossuth, Lyon, Osceola, Page (1 each)
Tuberculosis	73	65	65	For the State
Gonorrhea	71	56	102	For the State
Syphilis	90	111	115	For the State

The JOURNAL of the Iowa State Medical Society

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Vol. XXXVIII JUNE, 1948 No. 6

Changes in Blue Cross-Blue Shield Plans

Elsewhere in the JOURNAL will be found a double page statement setting forth changes in the contracts of both Blue Cross and Blue Shield. These changes have been made to correct certain abuses to Blue Cross with respect to diagnostic x-rays; to unify the coverage on x-ray of both plans, and to safeguard both plans from pre-existing conditions which immediately place a heavy burden upon them. A survey of past claims enabled both groups to single out the conditions which were making the heaviest drain upon them and to establish waiting periods before such conditions would be covered.

When x-ray coverage was added to the Blue Cross contract several years ago, it was not contemplated that it should be available except for hospitalized cases, but many subscribers wanting diagnostic x-ray insisted upon overnight hospitalization in order to be eligible for free service. This worked a severe hardship upon Blue Cross and the cost of it ran surprisingly high.

When Iowa Medical Service outlined its policy, it tied x-ray benefits to other covered services (surgery, fractures or dislocations) and so avoided abuse of the coverage. Blue Cross has now adopted this same type of coverage on x-ray and will not pay for admissions for diagnostic procedures only. This change in the contract will make it much easier for the physician to deal with patients who insist on unnecessary hospitalization. In the past the pressure has been put upon him to admit the patient so that the

latter might obtain free service; now the contract definitely states diagnostic procedures are not covered.

The waiting period on both policies are identical. Both call for a nine month waiting period on tonsils and adenoids, hemorrhoids, nervous and mental disorders, asthma, varicose veins, hernia, tuberculosis, tumors, alcoholism, stomach or duodenal ulcers (except acute perforation or hemorrhage), and obstetrics. Previously obstetrics and tonsils and adenoids were the only conditions for which a waiting period was imposed, but a study of the claims indicates that many subscribers immediately availed themselves of surgery or care for the conditions listed above.

Blue Cross has raised its room allowance from \$4.75 to \$5 a day, and has raised its rates for all subscribers. Hospital costs have risen steadily the past few years and these, added to abuse of certain services such as x-ray, have made the increased rate imperative.

On the other hand, Iowa Medical Service will shortly offer a lower premium rate to its subscribers. The board of directors has placed actuarial soundness as the prime requisite for a successful plan, and its wisdom would seem to be indicated by the fact that it has now returned the \$25 fee asked of the original participating physicians. Looking forward to the time when doctors' collections may not be at the high level of the war years, the board feels its insurance plan will prove a very real bulwark for doctor and patient. The lower premium rate will enable more subscribers to keep the policy in force and make them reluctant to abandon it; it should also encourage sales to more groups. The more people there are covered by this type of insurance, the higher the level of the physicians' collections will be.

Blue Cross and Blue Shield offer media through which the wage earner may budget for his unforeseen medical emergencies. When living costs squeeze the family budget, the doctor and the hospital are usually the first to feel the effect. If the lower premium will enable the family to keep Blue Shield in force, then medical emergencies can more easily be taken in their stride and both the doctor and the patient will benefit.

National Health Assembly

Drawing nationwide interest recently was the National Health Assembly called by Federal Security Administrator Oscar Ewing, at the request of the President. The purpose of the conference

was to attempt to work out areas of agreement between the various lay groups and the medical profession for a ten year health program.

Reports of the assembly have varied widely. For example, one states that it "caused about as much noise, nationally, as a ray of moonlight falling on a cup of custard." Another says that "The National Health Assembly, Inc., developed into a cruel hoax," while still a third mentions "That the National Health Assembly did considerable good cannot be denied."

Thus, taking an over-all picture, it seems that while many problems remained unsolved and areas of insufficiency have not yet been supplied, the eight hundred delegates apparently made commendable strides toward development of a plan for the production and distribution of medical services suitable to American democracy.

The most outstanding point of emphasis, voiced by Mr. Ewing and reiterated throughout the meeting, was recognition of the fundamental importance of a high quality of medical education for the solution of every medical problem. The necessity for consumer and professional cooperation in the development of adequate medical care at costs within the range of the mass of people was second in emphasis. Likewise, attention was given to the necessity for continued experimentation in the development of technics to provide and distribute medical care suitable to the needs of a diversified population under varying economic conditions. Questions concerning special problems of the Negro physician and Negro patient, availability of animals for experimentation, funds for conducting the medical schools and research institutions on a high plane, hospitalization and health centers, technics of transportation of the sick for rural areas, cooperatives for health, group practice, medical insurance on a service or fee-for-service basis and elimination of the profit motive in prepayment plans developed extended discussion and indicated the need for more study by experts.

The future of such meetings will be determined by the executive committee composed of thirty-nine members who will meet within a month to decide whether assemblies should be held periodically. Ewing's detailed report to President Truman on a proposed ten year health plan for the nation is scheduled for transmittal some time soon, possibly so that the time of its release will synchronize with the A. M. A.'s Chicago meeting in June.

Night Cramps

Recently attention was again directed to the use of quinine sulfate for prompt relief of night cramps in human extremities.* Since 1940, when Moss and Herrmann first reported on the topic, a series of 20 patients suffering from nocturnal muscle cramps at rest have been followed in the Vascular Disease Clinic of the Cincinnati General Hospital. The purpose has been dual: (1) to investigate the site of action of quinine sulfate, and (2) to discover the physiologic factors responsible for the onset of cramps.

The trial of quinine sulfate for the relief of night cramps originally was prompted by reports regarding the antagonistic effect of quinine hydrochloride and prostigmine salts upon myotonia and myasthenia gravis. To recheck the beneficial effect of quinine salts as well as the action of prostigmine upon patients susceptible to night cramps was the aim of the observers.

Quinine sulfate, 3 grains (0.2 gm.), a placebo, and prostigmine bromine, 7.5 or 15.0 mg., were prepared in identical capsules. Patients were started with either the placebo or quinine sulfate originally; if the latter, the placebo was substituted as soon as relief of the night cramps was noted. Three grains of quinine sulfate were experimentally established as the initial therapeutic dose and administered after each meal. The morning dose was of little benefit except to those experiencing muscle cramps while resting during the day. Three grains of quinine at bedtime were sufficient in some instances; two grains were insufficient for most patients. Faster acting quinine dihydrochloride was given at bedtime to some patients in whom cramps appeared promptly upon retiring.

Later, three grains of quinine sulfate after supper supplemented by a similar dose at bedtime proved equally beneficial. Relief was usually obtained on the first or second night. Often it was complete at once; sometimes milder or less frequent cramps persisted for some days after treatment was begun. Repeated alternations with placebo capsules over long periods were possible in many patients. Eventually, after a varying degree of quinine therapy, release of muscle cramps persisted without medication. Whether this was due to the interruption of some metabolic cycle by quinine or to the natural history of the condition could not be established. Night cramps are usually periodic regardless of treatment. Relief, however, was so prompt in all cases and pain recurred so often with placebo capsules that there

*Moss, H. K., and Herrmann, L. G.: Night cramps in human extremities. *Am. Heart J.*, 403-408 (March) 1948.

could be no question concerning the specific action of the drug in this condition.

In patients who came to the clinic complaining of night cramps and who received prostigmine bromide before the quinine, no alteration in the frequency or intensity of the cramps was acknowledged. It is possible that larger doses of prostigmine might have increased the night cramps. The dosage used was adequate to produce other physiologic effects of prostigmine, the most interesting of which was peripheral vasodilatation. Another effect was the action of prostigmine in hypertrophic arthritis, increased mobility being noted in joints which had been restricted for years.

Night cramps appear to result from the action of some end product of metabolism, as in diabetes, or from poor elimination of normal end products of muscle metabolism, as in patients with venous stasis due to varicose veins, pregnancy, or following deep venous occlusion. Increased muscular activity favors the development of night cramps in the rest which follows such activity. No etiologic or therapeutic relationship exists between intermittent claudication and muscle cramps at rest.

Thus, it has been concluded that quinine sulfate has been found to give prompt relief of night cramps in extremities. Evidence indicates that the action of quinine is directly on muscle rather than on the myoneural junction. This drug produces a refractory period in skeletal muscle that is similar to the refractory period in heart muscle. Prostigmine, the supposed pharmacologic antagonist of quinine, failed to increase the intensity or frequency of night cramps when administered in doses sufficient to produce the vasodilating effect of the drug.

National Conference of County Officers

Preceding the meeting of the American Medical Association, a national conference of county medical society officers will be held on Sunday, June 20, at the Palmer House, Chicago, from 10 a. m. to 4 p. m. Dr. A. M. Mitchell of Terre Haute, Ind., will act as general chairman.

The session will be divided into three sections, the general topics being: The County Medical Society—(1) Its Part in Medical Organization; (2) Its Responsibility to the Membership; and (3) Its Responsibility to the Public. A question and answer period will follow each presentation. Luncheon will be served at 12:30 p. m. with "National Medical Emergency" being the subject of discussion.

All county officers are invited and urged to attend. It is felt that this venture in discussing common problems and sharing solutions with other physicians throughout the United States, which was launched as the Grass Roots Conference at Atlantic City in June, 1947, is a definite step forward. Any questions or suggestions concerning the conference should be addressed to A. M. Mitchell, M.D., c/o Council on Medical Service, American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois.

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

Committee on Medical Service and Public Relations

April 18, 1948

The Committee on Medical Service and Public Relations met at Hotel Fort Des Moines Sunday afternoon, April 18, with the following persons present: Fred Sternagel, Martin I. Olsen, E. E. Shaw, D. C. Conzett, C. T. Maxwell and F. A. Hennessy of the committee; H. A. Spilman, president; J. E. Reeder, president-elect; John C. Parsons, secretary; Robert L. Parker, assistant secretary, and Mr. Don Taylor, field secretary.

Two firms asking approval for collection of physicians' accounts were discussed; one request was granted and the other was not because it was an out-of-state concern utilizing a procedure which the committee did not feel would be beneficial.

Dr. Stroy's report on his activities on nursing interests was read and Mr. Taylor also explained what the Woman's Auxiliary had done to date. A discussion followed which resulted in a motion that the subcommittee be appointed to continue work on the problem.

Legislation which would help finance local health units was explained by Dr. Bierring and the committee approved the plan in principle. Mr. Taylor explained the reactions he had obtained from different sections of the state on his visits to county societies and individual doctors, and the meeting adjourned at 5 p. m.

Meeting of the Council

April 21, 1948

The Council of the State Society met at 9:30 a. m. Wednesday, April 21, with the following persons present: L. L. Carr of West Union, C. H. Cretzmeyer of Algona, J. B. Knipe of Armstrong, R. N. Larimer of Sioux City, J. C. Hill of Newton, H. A. Householder of Winthrop, C. A. Boice of Washington and Dr. R. C. Gutch, resigned member.

Dr. Boice was re-elected chairman and Dr. Larimer secretary for the coming year. Minutes were approved as mailed; Dr. Gutch gave a short talk; and plans and procedures for district organization were discussed. Meeting adjourned at 10:30 a. m.

FIFTY YEAR CLUB MEMBERS

May 19, 1948

ADAMS, ERNEST M.	Central City	LEE, GISLE M.	Thompson
ALDRICH, J. FRANK	Clarinda	LINN, ELLIS G.	Des Moines
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BATES, WILLIAM R.	Fort Dodge	McCREERY, JOHN W.	Whitemore
BEAM, WATSON W.	Rolfe	McLAUGHLIN, CHARLES W.	Washington
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BELL, EDWARD P.	Pleasantville	MASON, STELLA M.	Mason City
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BIRNEY, CLEANTHUS E.	Estherville	MILLER, CHARLES W.	Preston
BOODY, GEORGE	Minneapolis	MILLS, FRANK W.	Ottumwa
BOYD, FRANK E.	Colfax	MINASSIAN, HAROOTUNE A.	Des Moines
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BROWN, ERIC N.	Marengo	MORSE, CHARLES H.	Eagle Grove
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DEAN, WILLIAM F.	Osecola	PEHELPS, MYRON H.	Van Wert
DENNISON, JOHN C.	Bellevue	PRESNELL, J. WILLIAM	Scranton
DITTMER, MARTIN E.	Colesburg	QUIRE, FRANK E.	Lynnville
ELY, FRANK A.	Des Moines	RAMBO, DAVID T.	Ottumwa
FARNUM, EARL P.	Sibley	REILEY, WILLIAM S.	Red Oak
FIELD, GEORGE A.	Des Moines	RILEY, JOHN	Exira
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GARDNER, PAUL E.	New Hampton	SINNING, AUGUSTUS	Iowa City
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GEESEKA, OTTO A.	Mt. Pleasant	SMITH, FRANKLIN C.	Mount Avr
GILES, GEORGE C.	Oakland	SOE, PEDER	Kimballton
GILFILLAN, HOMER J., SR.	Bloomfield	SPAULDING, HOMER L.	Ankeny
GILLMOR, BENJAMIN F.	Red Oak	STEVENS, HARRY L.	Floris
GIVENS, HEZEKIAH F.	West Bend	STINSON, ALICE C.	Estherville
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GRAY, HENRY A.	Keokuk	THROCKMORTON, R. FRED.	Des Moines
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GRIFFIN, SARAH M. F.	Manson	TOMBAUGH, FRANK M.	Burlington
GUTCH, THOMAS E.	Albia	VAN EPPS, CLARENCE E.	Iowa City
HAMILTON, BENJAMIN C.	Jefferson	VANCE, FREDERICK E.	Eddyville
HARRINGTON, BURTON	Cedar Rapids	VESTERBORG, PEDER H.	Forest City
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HEPPLAND, LOUIS H.	Sibley	WALLAHAN, JAY H.	Corning
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HIGHT, WILLIAM B.	Des Moines	WALSTON, EDWIN B.	Des Moines
HILL, HENRY C.	Washington	WANAMAKER, AMBROSE E.	Hamburg
HUSTON, HERBERT M.	Ruthven	WEDEL, JAMES R.	Keokuk
HYATT, CHARLES N.	Albia	WELLS, FRED L.	Des Moines
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KAUFFMAN, WILLIAM A.	Marshalltown	WILSON, FRED C.	Colesburg
KERLIN, JARED D.	Des Moines	WOLFE, THOMAS L.	Mount Vernon
KERN, LESTER C.	Waverly	WOODBIDGE, JAMES W.	Emmetsburg
KING, ELLIOTT R.	Letts	WOODS, HARRY E.	Birmingham
KISOR, FRANK H.	Mechanicsville	WRIGHT, WALTER N.	Rose Hill
KRIEBS, FRANK J.	Elkport	WYLAND, ASA O.	Underwood
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LEASE, NIMROD J.	Crawfordsville		

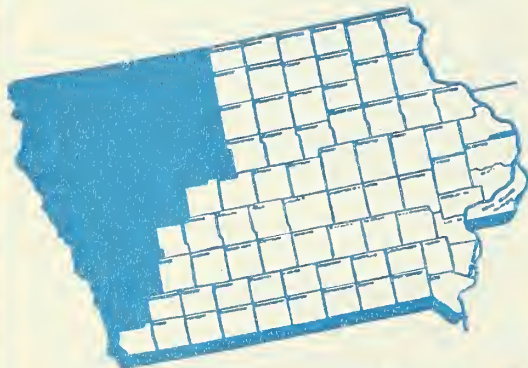


Changes in the COMBINATION

BLUE CROSS is the voluntary nonprofit plan of budgeting for hospital care, sponsored and guaranteed by the hospitals, endorsed by the medical profession and supervised by the Commissioner of Insurance of the State of Iowa.

BLUE CROSS benefits are on a SERVICE basis, which means no dollar limits on dressings, casts and use of splints, drugs and medicines (including penicillin and streptomycin), anesthetic supplies furnished by the hospital, operating room, laboratory examinations, electrocardiograms, basal metabolism tests, physical therapy and oxygen therapy.

In Iowa 521,518 persons are members. Over 100,000 of these are rural members enrolled through county Health Improvement Associations.



UNSHADED AREA
SERVED BY A.H.S.I.

No changes have been made in the Blue Cross contract at this time for Associated Hospitals Service, Inc., serving twenty-six counties in northwest Iowa, with headquarters in Sioux City.

Due to rising costs of modern and up-to-date medical procedures in hospitals, Blue Cross of Des Moines has

adjusted rates and made the following changes in the hospitalization contract:

1. Room allowance raised from \$4.75 to \$5 per day.
2. X-ray allowance has been extended to apply on medical cases not covered before on the combination Blue Shield-Blue Cross contracts.
3. Admissions primarily for diagnostic procedures will not be covered. This contract change will give the medical profession and the hospitals a definite basis for refusing requests by Blue Cross members for hospital admissions to obtain diagnostic services only.
4. Emergency outpatient services up to \$10 will be allowed within twenty-four hours of accident.
5. Waiting periods have been established for certain conditions which are enumerated under Blue Shield.

New Blue Cross literature will soon be available in all member hospitals. Ninety-five hospitals in this area are participating members of Blue Cross.

FREDRIC P. G. LATTNER, *Executive Director*
Liberty Building, Des Moines 7, Iowa

HEALTH PLAN



Blue Shield

of Vital interest to the Medical profession in Iowa

IOWA MEDICAL SERVICE (Blue Shield) was established by the Iowa State Medical Society for the purpose of enabling persons to budget their medical and surgical expenses.

Blue Shield is the emblem adopted by physician sponsored, nonprofit prepaid medical care plans in the United States.

Blue Shield is the only full service contract available to low income groups in Iowa. Under this type contract participating physicians agree not to make additional charges to subscribers whose family incomes do not exceed \$2,500. Individuals are entitled to the same full service benefits providing their yearly incomes do not exceed \$1,500.

When incomes exceed these limits the right is reserved for the participating physician to make his usual charge, accepting payment from Iowa Medical Service as partial reimbursement and looking to the patient for the balance.

IS THERE AN ADVANTAGE IN BEING A PARTICIPATING PHYSICIAN?

A participating doctor receives 100 per cent of the prevailing schedule of benefits DIRECT from Iowa Medical Service. The subscriber who utilizes the services of a nonparticipating physician is ONLY paid up to 75 per cent of the existing fee schedule.

THE FOLLOWING CHANGES NOW PREVAIL IN THE BLUE SHIELD CONTRACTS

Conforming to Blue Cross contract provisions a nine month waiting period has been established for care and treatment of the following conditions:

Tonsils and Adenoids	Asthma
Hemorrhoids	Varicose Veins
Nervous and Mental Disorders	Hernia
Tumors	Tuberculosis
Stomach or Duodenal Ulcers (except acute perforation or hemorrhage)	Alcoholism

NOTE: Groups of twenty-six or more employees may qualify for waiver of all of the above named provisions.

X-RAY COVERAGE

Blue Shield will continue to cover hospital outpatient x-rays and those performed in the doctor's office thirty days prior to or following surgery, fractures, or dislocations. Blue Cross will cover inpatient x-rays if the admission is not primarily for diagnosis.

WHO IS ELIGIBLE TO JOIN BLUE SHIELD?

Employed groups consisting of six or more employees are eligible.

Rural residents enroll through county Health Improvement Associations (H. I. A.).

NOTE: A minimum of 50 per cent doctor participation is required within a county before Blue Shield can be made available.

WHAT SERVICES ARE PROVIDED?

1. Surgical and obstetric services are covered anywhere (hospital, home, office, highway, etc.).

2. Under the combination medical and surgical contract a subscriber is allowed medical care while a bed patient in a hospital, if the stay is four days or longer.

No services are provided for home and office calls medical in nature.

NOTE: Doctors desiring to participate in this program should contact Iowa Medical Service.

WILBUR R. QUINN, Executive Director
324 Liberty Building, Des Moines, Iowa

NEWS NOTES

from the
Committee on Medical Service and Public Relations

IOWA'S PREPAID MEDICAL CARE PLAN

Iowa Medical Service is the prepaid medical care plan which was approved by the House of Delegates of the Iowa State Medical Society in November, 1944, and has continued under the sponsorship of that organization. The first group of subscribers was enrolled in September, 1945.

The Board of Directors of Iowa Medical Service is composed of fourteen licensed doctors of medicine and five laymen. One doctor is elected from each of the eleven councilor districts and three chosen at large. The distribution of member doctor representation by councilor district is established in Article III, Sec. 1, of the by-laws as amended April 17, 1946. The first annual meeting of the Board of Directors was held April 18, 1945, with subsequent meetings held April 17, 1946, and April 16, 1947. Two meetings (other than annual) were held Nov. 17, 1946, and Nov. 2, 1947.

Iowa Medical Service is an outgrowth of demands by various county medical societies for some plan under which persons may budget for medical and surgical coverage. This plan was originally considered for county operation, but the demand was so great throughout the entire state that it was developed as one plan for all of the ninety-nine counties.

Not all of the counties have seen fit to accept it, however. The question of its acceptance remains with the physicians who are members of the Iowa State Medical Society. At least 50 per cent of the doctors within a county must endorse Iowa Medical Service before it can be sold to the groups within this designated area. Acknowledgment of the plan by a majority of the doctors affords the subscribers greater freedom in the choice of a physician.

Blue Shield is the trade name adopted by Iowa Medical Service because it is symbolic and is easily recognized and remembered by the public. It also goes well with the name of its running mate, Blue Cross. The name Blue Shield was suggested by the national prepaid medical care plan organization, Associated Medical Care Plans.

The symbol Blue Shield has been adopted by all of the members of A.M.C.P., which totals fifty-two plans.

Blue Cross, the hospital insurance plan in Iowa, is and has been responsible for the selling and collecting of Iowa Medical Service since its inception. Blue Cross was the logical firm to do the selling because of the close relationship between hospital and medical and surgical care. Both of the corporations are voluntary and non-profit. Blue Cross has been in operation in Iowa since 1939, so its sales force was immediately available to Iowa Medical Service. There are two Blue Cross plans in Iowa, one in Sioux City and the other in Des Moines. The organization in Des Moines is known as Hospital Service, Inc., of Iowa, and the firm in Sioux City is Associated Hospital Service, Inc., of Iowa. Hospital Service, Inc., services seventy-three counties in central and eastern Iowa, while Associated Hospital Service, Inc., services twenty-six counties in the western part of the state.

Doctor participation in Iowa Medical Service is increasing as the doctors become more familiar with details of the plan. At the present time only thirty-one of the state's ninety-nine counties are not available for sales because of the lack of doctor participation; 1,459 out of a total of 2,597 physicians, who are engaged in the private practice of medicine, are participating.

Iowa Medical Service has an office independent of Blue Cross to handle claims and professional contacts. Wilbur R. Quinn directs the operations, and a staff of three handles the details of processing claims.

Iowa Medical Service was established for the purpose of allowing persons with low incomes to budget their medical expenses, and it also serves to counteract the increasing threat of federal control of the private practice of medicine. It affords protection for approximately 42,000 subscribers in Iowa, which is a recognizable share of the population. As doctor participation increases, so will population coverage.

Iowa Medical Service has the only full service contract available for the low income group.

This means that the doctor makes no charge to the patient if the family income is \$2,500 a year or less, or the individual's income is \$1,500 or less. Instead, he accepts the fee set up in Iowa Medical Service as payment in full, so that the subscriber in these income limits is protected against increased fees. When the income is above these limits the doctor may make his usual charge, accepting payment from Iowa Medical Service as partial reimbursement and looking to the patient for the balance. The fee schedule set up by the Board of Directors is one considered equitable for persons in the low income group, but is not intended as a maximum or even an average schedule.

Iowa Medical Service is also responsible for administering the Veterans Home Town Medical Care Program, which is the examining of veterans in or near their home communities. These examinations are requested by Iowa Medical Service only upon authorization of the Veterans Administration. There are 1,780 physicians in Iowa who are eligible to make these examinations.

Physicians interested in becoming participants in Iowa Medical Service should contact the office located at 324 Liberty Building, Des Moines, Iowa.

Don L. Taylor

CLINICOPATHOLOGIC CONFERENCE

(Continued from page 258)

tend to follow the laboratory worker's titer, but I notice the titers of other individuals before streptomycin was in vogue varied a lot. Some of these titers were followed for as long as seven years and some of them even longer. In some individuals the titer was high shortly after they had the disease and remained high the rest of their lives. In others it was quite high at first and then went down. In one case it was negative after three years.

Dr. Charles Gray (Oakdale): This case was obviously terminal and moribund, but if he had been seen a few days earlier, or twelve to twenty-four hours earlier, would there have been any advantage in starting therapy with intravenous streptomycin?

Dr. Hardin: Well, I don't know that that question could be answered definitely. We don't really know enough about streptomycin in tularemia, and I don't personally know enough about the possibility of raising the blood levels of streptomycin higher with intravenous injections than with intramuscular injections.

VETERANS ADMINISTRATION

SURGICAL SERVICE*

Many new changes have been completed in the physical facilities of the Surgical Service. These additions and improvements have given the service the required space and equipment to meet the ever increasing surgical load.

The Surgical Service, which includes all of the sub-specialties, has a total capacity of 248 beds. The service is subdivided in the following manner: general surgery, which includes thoracic, plastic, and gynecologic surgery, has 110 beds; orthopedic surgery, which includes acute traumatic surgery and acute fractures, has 84 beds; urology, 38 beds; EENT, 16 beds.

The surgical work load is increasing and shows a continued upward trend as compared to last year.

In the past six months the patient load has increased 12.5 per cent as compared to the previous six months. The total surgical procedures for the same period has likewise shown an increase of 14.1 per cent. The discharge and admission rates have been equal. The period of hospitalization has been reduced another four and six-tenths days in the past six months as compared to the previous six months.

Additional appointments have been made to meet the requirements of each subdivision of surgery. The Dean's Committee has approved, to date, five residents in the Department of Anesthesiology and nineteen residents in General Surgery.

Louis T. Palumbo, M.D.,
Chief, Surgical Service

*Published with permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the author.

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Wednesdays at 2:45 p.m.

WSUI—Thursdays at 11:45 a.m.

- | | |
|--------------------|---|
| June 2-3 | Hay Fever—Lewis J. Dimsdale, M.D.,
Sioux City |
| June 9-10 | Common Sense Eating in Summer—
Miss Kate Daum, Iowa City |
| June 16-17 | Safety First—Mr. E. N. McIlrath, Des
Moines |
| June 23-24 | Is Your Child Going to School in Sep-
tember?—Morgan Foster, M.D., Cedar
Rapids |
| June 30-
July 1 | Summer Skin Ailments—Kurt Jaenicke,
M.D., Clinton |

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. ALLAN G. FELTER, Van Meter

President-elect—MRS. CHARLES A. NICOLL, Panora

Secretary—MRS. ROGER M. MINKEL, Fort Dodge

Treasurer—MRS. M. A. ROYAL, 1138 Thirty-seventh Street, Des Moines 11

REPORT OF ANNUAL MEETING

The Woman's Auxiliary to the Iowa State Medical Society held its nineteenth annual meeting at the Hotel Savery April 19 and 20. Mrs. Fred Moore, Des Moines, state president, presided at all meetings. Mrs. Eustace A. Allen of Atlanta, Ga., president of the National Auxiliary, was an honored guest.

Business of the convention was discussed, reports of state officers and chairmen of standing committees and county presidents were heard at the executive board meeting on Monday morning. Following luncheon, the general meeting was opened with an invocation given by Mrs. J. C. Decker, Sioux City. Greetings were extended by Lester D. Powell, M.D., president of Polk County Medical Society; welcome was given by Mrs. James E. Dyson, president of the Woman's Auxiliary to the Polk County Medical Society, followed by a response by Mrs. Allan G. Felter, president-elect of the State Auxiliary.

Miss Marie Neuschaefer, R.N., president of the Iowa State Nursing Association, addressed the convention on the topic, "Challenges in the Field of Nursing." In line with the fact that nurse recruitment is one of the major projects of the State Auxiliary, Miss Neuschaefer stressed the tremendous need for increased nursing service. In 1910 there was one nurse for 1,100 persons; in 1946, one for 316. There has not been a decline in the number of nurses, but rather an increased demand for nurses by the public. More nurses are desired for private duty. Hospital insurance has stimulated the use of hospital service with the attendant need for nurses. Industry and public health fields, as well as mental institutions and geriatrics, all want more nurses. Only 6 per cent of the babies born last year were delivered in homes.

All of these special phases of nursing offer a wide opportunity for young women. Because the need is so great, efforts are being made to create a minimum standard of requirements for practical nurses and to offer them official recognition as well as specified terms of training at various points in the state. Already twenty-one states have laws to cover training of practical nurses. At present, there are only thirty-five county nurses at work in Iowa, although all ninety-nine counties would like to have one. This work formerly required one year of specialized training; now, one-third of the number in service have had only two months of specialized training.

In line with the above facts, Mrs. W. R. Hornaday reported a receipt of \$592 toward the Nurses' Loan Fund with \$367.95 on hand and one girl in training. Each county auxiliary is urged to help maintain this fund by a 50 cent per member donation.

Mrs. H. W. Smith, chairman of nurse recruitment, reported chairmen in this field in about one-third of the organized counties. The University of Iowa, the Lutheran Hospital at Waterloo, the Red Cross and other organizations have promoted separate recruitment plans of their own quite successfully. The IFWC through the Public Health Division has been cooperating in the program. Mrs. Smith urged that we maintain "a working relation with the Iowa State Nursing Association" and "that doctors' wives should keep their hands on the wheel" in this all-important venture. We need to cooperate with lay organizations but retain leadership as far as possible in fields that relate to medicine. The Iowa State Medical Society is backing the Auxiliary in the nurse recruitment program by paying for the printing and distribution of essential materials. The survey of practical nurses in the state will represent another vast area where the Auxiliary can assist the Iowa State Nursing Association at the proper time.

A dinner was held at Hoyt Sherman Place on Monday night, at which Mrs. Eustace A. Allen was the principal speaker. Informal bridge was enjoyed and many attended the theatre party for "Annie Get Your Gun."

At the general meeting Tuesday morning, regular order of business was conducted by the president, Mrs. Moore. All official reports will appear in this and following issues of *The Woman's Auxiliary News*. The new by-laws, revised by Mrs. E. T. Warren, Stuart, and her committee, were read by Mrs. H. I. McPherrin, and with the recommended amendments were unanimously accepted by convention. The election of five councilors and three directors, one of whom shall be the immediate past president, will mean a great deal in facilitating supervision of county Auxiliary work. State dues will be \$2; \$1 of this will go to the National Auxiliary and \$1 to the state to carry on work on those levels.

Mrs. J. A. Downing, chairman of the nominating committee, presented a roster of officers who were elected unanimously. Their names, along with those of the councilors and directors, were printed in the May issue of *The Woman's Auxiliary News*, with the

exception of the corresponding secretary, who is Mrs. Robert P. Mason, 1720 47th Street, Des Moines.

At the luncheon, which was well attended, special guests included Mrs. Allen; Harold A. Spilman, M.D., president of the Iowa State Medical Society, and James E. Reeder, M.D., president-elect of the Iowa State Medical Society. Elmer L. Henderson, M.D., Louisville, Ky., chairman of the board of trustees of the American Medical Association, read a paper on "The World Medical Association." He urged that every doctor's wife be an active member of the Auxiliary for "doctors' wives are the greatest public relations agents in the whole set-up." He stated, too, after opportunity to observe medicine in many countries throughout the world that "there is no group in the world today that gets anything like the medical service which the American people get."

The World Medical Association hopes to create closer ties among the 500,000 doctors throughout the world. "The medical profession is the only one with an international outlook." Representatives of forty-nine countries met in Paris at the organization meeting last fall. Headquarters will be in New York. This organization will confer on medical problems in the different countries; it will make an effort to centralize interests; it will try to present the views of the World Health Organization, a department of the United Nations which corresponds to the Public Health Service in our own country; and, it hopes to promote world peace by maintaining the honor of and interest in other peoples of the world. "Medicine in most countries is dominated by socialistic or communistic elements. The American delegation returned to the United States thankful for medical freedom."

Fred Sternagel, M.D., West Des Moines, chairman of the Committee on Medical Service and Public Relations, followed in logical sequence with an address on "Public Relations in Medicine." He emphasized with ability and humor the facts with which thinking doctors' wives are already indoctrinated. "Socialized medicine will destroy personal incentive. Those who insist on getting their money's worth regardless of the insignificance of an ailment will monopolize a doctor's time. House calls will increase because there will be less home cooperation when individuals feel that service has already been paid for. It would take a monumental staff and an incredible fortune to keep an accurate check on the records of all doctors. With these items in mind, it is well to remember that the doctors themselves, their wives, and the county societies have the greatest influence on public health and it is they who 'must carry the ball.'"

In the business meeting following the luncheon a registration of 176 doctors' wives was reported. They came from four states and fifty-eight counties. Eleven former state presidents attended the convention. Mrs. K. M. Chapler, chairman of the committee, read the resolutions. Mrs. M. N. Voldeng, first state president, installed the new officers.

At the postconvention board meeting, Mrs. Allan

G. Felter, president, read the names of chairmen of standing committees:

Archives—Mrs. A. E. Merkel, Des Moines; Cancer—Mrs. Harold Morgan, Mason City; Finance—Mrs. J. E. Reeder, Sioux City; History—Mrs. W. A. Seidler, Jamaica; Hygeia—Mrs. James S. Jackson, Mt. Pleasant; Legislation—Mrs. C. C. Jones, Des Moines; National Bulletin—Mrs. Edwin Thorsness, Dubuque; Nurse Recruitment—Mrs. H. W. Smith, Woodward; Nurses' Loan Fund—Mrs. W. R. Hornaday, Des Moines; Organization—Mrs. R. M. Minkel, Ft. Dodge; Program—Mrs. L. A. Coffin, Farmington; Publications—Mrs. K. M. Chapler, Dexter; Public Relations—Mrs. J. E. Whitmire, Sumner; Parliamentarian—Mrs. J. A. Downing, Des Moines; Work for the Handicapped—Mrs. M. H. Brinker, Jefferson.

Mrs. K. M. Chapler,
Chairman of Publications

REPORT OF THE PRESIDENT, 1947-48

As one looks back over the year's work, it often takes on a definite pattern. Ours has been an interesting, developing pattern. The beginning objectives were crystallized through meetings with one member of our advisory council and the board of trustees last summer when three significant statements were made. These were:

1. There should be a Woman's Auxiliary to every county medical society in the state.
2. The Auxiliary must have a definite, challenging program to compel and hold the interest of busy doctors' wives.
3. Some county medical societies are not yet convinced of the value of the Auxiliary.

Along with these comments came the assurance that they would back organization 100 per cent.

These were not new ideas; our past officers and boards have worked diligently to develop a constructive program and organize more Auxiliaries. But we were challenged anew by their definite analysis and our purposes became more sharply defined.

These points were definitely interrelated and basic to them was the building up of the prestige and status of the state organization through good public relations and cooperation with state organizations, whose areas of work are the same as ours. We proceeded to build up cooperation with various departments of the State Health Department—its Health Education Division, interested in health forums and organizing health councils; its Cancer Division, etc.; with all the groups working for the handicapped, including the State Department of Special Education and Vocational Rehabilitation as well as the Iowa Society for Crippled Children; with the Iowa Division of the American Cancer Society; with the State Nursing Association, as well as the over-all organization called the Iowa Council for Better Education.

There was much stimulation in the recognition quickly given the Auxiliary as a valuable organization, whose cooperation was desired. This recognition gave us a feeling of responsibility for meeting

their expectations and demanded that we plan with great vision.

To become effective as a statewide organization it was absolutely essential that county Auxiliaries be organized as rapidly as possible and that members-at-large be enlisted in unorganized counties until organization could be completed. I personally have given a great amount of time to organization work this year and regret that active promotion could not be launched immediately last spring. It took some little time to get a sense of direction in it and find the right approaches. This meant hours of correspondence and willingness to wait. Our vice presidents also were making contacts in their sections of the state. It was most heartening when Don Taylor, the new field secretary of the State Medical Society who came Feb. 1, got his feet on the ground and began saying to us and county medical societies, "We must have the Woman's Auxiliary to do what must be done for the medical society." We have made a small beginning in organization. Eight counties have organized or re-organized and we have members-at-large in all but fourteen of the remaining counties. Five others are in the process of organization, we hope.

Realizing the value of records and available reports, an archives committee started its work last fall. The executive board at the winter board meeting authorized the purchase of loose-leaf notebooks for officers and committee chairmen which will contain general Auxiliary information and the material pertaining to each one's official duties. These books have been purchased and a beginning made in assembling material. The state records are not easily available to everyone. If these books are conscientiously kept up after they are started, much unnecessary spade work will be eliminated each year and better continuity will result.

It was with regret that I was unable to attend the national convention in Atlantic City last June; our State Auxiliary was ably represented by Mrs. Brinker, Mrs. Warren, Mrs. Westly, Mrs. McCoy and Mrs. Coughlan.

This year we have had two executive board meetings—one in late September and the second in January. In a moving program two board meetings seem necessary to keep every officer and committee chairman completely informed and to draw in the best thinking of the whole group. County presidents and presidents-elect are members of this board, and their attendance is most important to the county and state organizations. Because of the problems involved in attending these meetings I would like to recommend that county Auxiliaries consider paying something toward the traveling expenses of county presidents from the county treasuries. There are several reasons for this. First of all, there is no better way of gaining an intelligent understanding of Auxiliary work than by regular attendance at board meetings, and it pays dividends to the county in the kind of leadership it develops. Second, the small amount of money involved is a small contribution in return for the

time, effort, and sometimes necessary expense in arranging to be away. Third, such an arrangement should develop a feeling of responsibility on the part of the president to attend these meetings, and it would soon be accepted as one of the duties of the president.

As the year has progressed, my conviction has grown that we should give special emphasis to the work of the county Auxiliary next year. I believe one way of working on this would be to have a conference in connection with our fall board meeting to discuss the problems, achievements and ideas in a spirit of mutual interest. Of course, another way would be visits by the president to organized counties I had hoped to visit all organized counties and to have a chance to work more closely with presidents and get better acquainted with all our members. To my disappointment, this has been possible in a limited way. I have visited four counties in addition to those where organization work was done.

At the fall board meeting, it was voted to make a roster of doctors' wives in the state. This is practically completed and has already proved its value.

The real work of the year will be reported by our able state chairmen, whose united efforts have made for the progress of our work. I wish I could adequately express my thanks and the gratitude of the state organization to all those who have worked for our interests. The work could not have been compassed without the extraordinary effort of Mary McCord and her fine staff in the State Medical office. The task of mimeographing and mailing was huge but more wonderful was the cheerful, generous spirit with which the avalanche of work was accepted. We are deeply grateful.

Of paramount interest as we come to this meeting is our cooperation with the State Nursing Association in a statewide survey of practical nursing, in which they have asked our assistance. Promoting nurse recruitment was one of the objectives adopted at our annual meeting last year and our efforts have been directed to it. This, however, means promotion on a statewide basis, with a county chairman for nursing interests.

The Medical Service and Public Relations Committee of the State Society not only approved but wanted us to undertake these projects. They propose to give us active cooperation in them as well as underwrite the budget. The nursing problem is fundamentally important to the medical profession and commands the interest and cooperation of every doctor's wife. The State Auxiliary has never had a greater challenge and can meet it with confidence if we can win the wholehearted backing of every doctor's wife.

It has been a pleasure to have the president-elect, Mrs. Felter, closely associated with me in the tasks of the year. We have conferred frequently; she has attended many of our important committee meetings; we went together on two organization trips—one to Mahaska County and the other to the south-

western part of the state when Cass and Pottawattamie Counties reorganized. We both attended the fall board meeting in Chicago. Every effort has been made to keep her in touch with what was happening so that she can go forward with assurance. Her interest, enthusiasm and experienced approach to Auxiliary problems will be an asset to the State Auxiliary, as they have been a comfort to me.

Our state officers and committee chairmen have done a splendid piece of work. Their loyalty has been heart-warming. Many obstacles, such as demanding home duties or sickness in the family, have sometimes proved handicaps. We all realize there is seldom an ideal situation which allows us to pursue our work unhindered. Therefore, we feel the more appreciation to the many who push themselves a little harder and sacrifice their own desires to help maintain an ideal.

One comes through the year with a feeling of the greatest admiration for the doctors' wives and the place of leadership they hold everywhere. One has confidence that the future of the Iowa State Auxiliary is assured when such women more and more accept their responsibility as doctors' wives. It has been a privilege to serve the Iowa State Auxiliary as president.

Augusta B. Moore, President

NURSING SURVEY PLANNED

To ascertain the status and needs of nursing in Iowa today and in order to better meet the growing demand for patient service, the Woman's Auxiliary to the Iowa State Medical Society and the Iowa State Nurses' Association are jointly undertaking a comprehensive, statewide survey.

Individuals to be interviewed are those who nurse for hire. This includes professional nursing categories such as private duty nurses, public health nurses, industrial nurses, hospital nurses (exclusive of students), county nurses, school nurses, tuberculosis nurses, psychiatric nurses, doctors' office nurses, maternal welfare nurses, clinic nurses, and all non-professional groups giving nursing care such as practical nurses, nurses' aides and attendants in any type of institution (state hospitals, clinics, nursing homes, etc.).

Dates for the nursing survey are June 15 through July 15. Mrs. H. W. Smith, Woodward; Mrs. Fred Moore, Des Moines, and Mrs. A. G. Felter, Van Meter, of the Auxiliary, and Miss Pearl Zemlicka, Waterloo, ISNA representative, are chairmen of the nursing survey committee.

REPORT OF THE PRESIDENT-ELECT 1947-48

As president-elect of the woman's Auxiliary to the Iowa State Medical Society, I have kept in close contact with the work of various committees and projects of the organization. During the year I have attended committee meetings for the promotion of nurse recruitment and public relations, as well as cancer meetings on state, county, and local levels.

Also, I have attended programs of the Society for the Crippled and Handicapped, met with Mrs. Ann Lachner, director of public relations for the Blue Cross, and with a committee of the Iowa State Nurses' Association to consider nursing conditions in Iowa. With Mrs. Moore I attended the fall conference of the National Auxiliary at Hotel LaSalle, Chicago. I have had the pleasure of driving Mrs. Moore to Oskaloosa, Atlantic and Council Bluffs where Auxiliaries were effected or reorganized in Mahaska, Cass and Pottawattamie Counties, respectively. We also visited the Montgomery County group at Red Oak on our itinerary in southwest Iowa. I have contacted 25 members over the state by letter with the hope of knowing them personally as members of committees. The standing committees are planned for the most part and ready to begin work.

Mrs. Allan G. Felter, President-Elect

ACTIVITIES OF COUNTY AUXILIARIES

An Auxiliary to the Marshall County Medical Society was formed at a dinner meeting May 4. Mrs. Fred Moore and Mrs. Allan G. Felter were present and gave the group information concerning the aims and purposes of such organization. The Auxiliary will meet once a month at the time of the doctors' meeting and the chief project will be the nurse recruitment program. The following officers were elected, with necessary committees to be selected later: Mrs. D. D. Harris, president; Mrs. Earl Keyser, vice president; Mrs. Harold E. Sauer, secretary, and Mrs. J. P. McCann, treasurer.

Mrs. Harold E. Sauer

The Auxiliary to the Delaware County Medical Society was formed on April 14th with the assistance of Mrs. Fred A. Rolfs, Aplington, third vice president. Charter members are Mrs. R. E. Clark, Mrs. W. J. Willett, Mrs. J. K. Stepp, Mrs. B. H. Byers, Mrs. Paul Stephen, Mrs. Frank Schroeder and Mrs. C. B. Rogers.

Mrs. Paul Stephen

Recently elected officers of the Auxiliary to the Dubuque County Medical Society are: Mrs. A. J. Entringer, president; Mrs. H. F. Rives, first vice president; Mrs. D. J. Ward, second vice president; Mrs. J. W. Lawrence, secretary-treasurer; Mrs. D. C. Sharpe, nurse recruitment chairman.

The Dubuque Auxiliary has returned to monthly meetings which were abandoned during war time and has chosen the first vice president to become president-elect, thereby insuring succession and strengthening the possibilities of the work of the Auxiliary.

Mrs. Matthew J. Moes

DID YOU KNOW

That the Brookings Institute, a private research organization, recently conducted some work for the subcommittee on health of the senate labor committee? They found that "there aren't enough phy-

(Continued on page 278)

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- ADVANCES IN MILITARY MEDICINE**—Made by American investigators working under the sponsorship of the Committee on Medical Research. Edited by E. C. Andrus, D. W. Bronk, G. A. Carden, Jr., C. S. Keefer, J. S. Lockwood, J. T. Wearn, M. D. Winternitz. Associate Editor—Tuckerman Day. Foreword by Alfred N. Richards. Volumes I and II. An Atlantic Monthly Press Book. Little, Brown and Company, Boston, 1948. Price, \$12.50.
- BRIEF PSYCHOTHERAPY: A Handbook for Physicians on the Clinical Aspects of Neuroses**—By Bertrand S. Frohman, M.D., with the collaboration of Evelyn P. Frohman. Foreword by Walter C. Alvarez, M.D. Lea & Febiger, Philadelphia, 1948. Price, \$4.
- CLINICAL TOXICOLOGY**—By Clinton H. Thienes, M.D., Ph.D., Professor of Pharmacology and Head of the Department of Pharmacology and Toxicology, School of Medicine, University of Southern California, Los Angeles; Attending Pathologist (Toxicology), Los Angeles County Hospital; and THOMAS J. HALEY, Ph.D., Fellow in the Department of Pharmacology and Toxicology, School of Medicine, University of Southern California; Formerly Graduate Assistant in Pharmacology, University of Florida, and formerly Medical Director of E. S. Miller Laboratories, Los Angeles. Second edition. Lea & Febiger, Philadelphia, 1948. Price, \$4.75.
- HEART: A PHYSIOLOGIC AND CLINICAL STUDY OF CARDIO-VASCULAR DISEASES**—By Aldo A. Luisada, M.D., Instructor in Physiology and Pharmacology, Tufts College Medical School, Lecturer in Medicine; Lecturer, Postgraduate Division, Tufts College Medical School; Associate in Medicine, Beth Israel Hospital, Boston, Mass.; Former Professor of Medicine, Ferrara, Italy. With a foreword by Herrman L. Blumgart, Physician-in-Chief, Beth Israel Hospital; Professor of Medicine, Harvard Medical School. The Williams and Wilkins Company, Baltimore, 1948. Price, \$10.
- A MANUAL OF CLINICAL THERAPEUTICS: A GUIDE FOR STUDENTS AND PRACTITIONERS**—By Windsor C. Cutting, M.D., Professor of Therapeutics, Stanford University School of Medicine, San Francisco, Calif. Second edition, W. B. Saunders Company, Philadelphia, 1948. Price, \$5.
- A MANUAL OF PHARMACOLOGY AND ITS APPLICATIONS TO THERAPEUTICS AND TOXICOLOGY**—By Torald Sollmann, M.D., Professor Emeritus of Pharmacology and Materia Medica, School of Medicine, Western Reserve University, Cleveland. Seventh edition. W. B. Saunders Company, Philadelphia, 1948. Price, \$11.50.
- MODERN COSMETICOLOGY**—By Ralph G. Harry, F.R.I.C., Certificate of the Royal Institute of Chemistry and Microscopy of Foods, Drugs and Waters, Pharmacognosy, Pharmacology and Therapeutics. Head of the Cosmetic Department, Beecham Research Laboratories, Ltd.; formerly Manager of Toilet Preparations Research Laboratory, Messrs. Lever Brothers & Unilever, Ltd. With a foreword by P. B. MUMFORD, M.D., F.R.C.P., Hon. Dermatologist, the Manchester Royal Infirmary; Hon. Consulting Physician, the Christie Cancer Hospital and Holt Radium Institute; Hon. Physician, Manchester and Salford Skin Hospital. Third revised edition. Chemical Publishing Co., Inc., Brooklyn, 1947. Price, \$12.
- PSYCHIATRY FOR THE PEDIATRICIAN**—By Hale F. Shirley, M.D., Associate Professor of Pediatrics and Psychiatry, Executive Director of the Child Psychiatry Unit, Stanford University School of Medicine. The Commonwealth Fund, New York, 1948. Price, \$4.50.
- PSYCHOBIOLOGY AND PSYCHIATRY**—A Textbook of Normal and Abnormal Behavior—By Wendell Muncie, M.D., Practicing Psychiatrist; Chairman, Medical Advisory Board, Seton Institute, Baltimore, Md.; Associate Professor of Psychiatry, Johns Hopkins University; Consultant in Psychiatry, U. S. V. A. Second edition. The C. V. Mosby Company, St. Louis, 1948. Price, \$9.
- TREATMENT BY DIET**—By Clifford J. Barborka, B.S., M.S., M.D., D.Sc., F.A.C.P., Assistant Professor of Medicine, Northwestern University Medical School, Chicago; Attending Physician, Passavant Memorial Hospital; Consultant in Gastro-enterology and Gastroscopy, Diagnostic Center, Hines Veterans Hospital; Formerly Consulting Physician, The Mayo Clinic. Fifth edition. J. B. Lippincott Company, Philadelphia, 1948. Price, \$10.
- TREATMENT IN GENERAL PRACTICE**—By Harry Beckman, M.D., Professor of Pharmacology, Marquette University School of Medicine, Milwaukee, Wisconsin. Sixth edition, W. B. Saunders Company, Philadelphia, 1948. Price, \$11.50.

BOOK REVIEWS

MINOR SURGERY

By Frederick Christopher, B.S., M.D., F.A.C.S., Associate Professor of Surgery, Northwestern University Medical School; Chief Surgeon, Evanston (Illinois) Hospital. Sixth edition. W. B. Saunders Company, Philadelphia, 1948. Price, \$12.

This entire volume has been thoughtfully revised, many sections having been entirely rewritten and new sections added.

The sections on thrombophlebitis and phlebothrombosis have been extensively revised and include consideration of anticoagulant therapy and femoral vein ligation in the prophylactic treatment of pulmonary embolism. Many additions and changes have been made in the sections dealing with burns, varicose veins, methods of artificial respiration, and pilonidal sinuses.

New material includes consideration of gelatin sponge or oxidized cellulose for control of hemorrhage, early postoperative ambulation, Lund's table of skin areas, procaine in serum sickness, use of plaster casts in burns, lumbar sympathetic block in thrombophlebitis, intra-arterial injection of penicil-

lin in infections of the extremities, excision and closure of bedsores, treatment of malignant melanoma, placement of neck incisions, prosthetic restoration of amputated fingers, refrigeration anesthesia, intravenous administration of sodium bicarbonate in sulfonamide therapy and use of aluminum hydroxide paste in bowel fistulas.

This exceedingly well written and illustrated volume is a definite asset to any doctor's library regardless of his specialty field.

H. G. E.

400 YEARS OF A DOCTOR'S LIFE

Collected and arranged by George Rosen, M.D., and Beate Caspari-Rosen, M.D. Henry Schuman, New York, 1947. Price, \$5.

This book is quite different from the usual medical writing. It consists of selections from autobiographies, letters and poetry so skillfully interwoven that most interesting sidelights regarding the lives of physicians prominent in the history of the profession are presented in a fascinating manner. All physicians will be intrigued with these insights in

the lives of doctors whose names are more often remembered for scientific achievements.

E. M. G.

A MANUAL OF PHARMACOLOGY

By Torald Sollmann, M.D., Professor Emeritus of Pharmacology and Materia Medica, School of Medicine, Western Reserve University, Cleveland. Seventh edition. W. B. Saunders Company, Philadelphia, 1948. Price \$11.50.

This text on pharmacology is like all the rest of the texts written by Dr. Sollmann in that it is complete and up-to-date. It furnishes the student of medicine, as he says, with a rather comprehensive outline of actions, especially from the viewpoint of therapeutics and toxicology.

All the drugs of common use today are listed with a complete description. The last few years have more completely evaluated the anti-infective agents, and this particular aspect has been covered thoroughly in this text under the heading of "Sulphonomid Compounds and Periamino Benzoic Acid." The antibiotic agents also have been developed since the war and have been very well covered in this text up to this year.

The antityphoid drugs, the anticonvulsants, the antihistamine agents, autocholenacetylases, folic acid, standardized curare, reliable digitoxin, nitrogen mustard and Val are all covered thoroughly in this text.

In all, the book covers 1,132 pages with 24 pages devoted to index and 101 pages of bibliography. The bibliographic review has been taken from 1926 to the present date only. This bibliography is very complete and offers an added advantage to those who are interested in research.

In general, the arrangement of the text follows the previous edition as stated. The action of the drug is described under its heading. The smaller type is made use of on special occasion only and describes experimental work or other special work accomplished on the subject.

Sollmann's Manual of Pharmacology is well-known by most students of medicine and pharmacy. This book reflects progress in aggressive medicine.

C. G. N.

BRIEF PSYCHOTHERAPY

A Handbook for Physicians on the Clinical Aspects of Neuroses. By Bertrand S. Frohman, M.D., with the collaboration of Evelyn P. Frohman. Foreword by Walter C. Alvarez, M.D. Lea & Febiger, Philadelphia, 1948. Price, \$4.

Dr. Frohman has given us a brief, well written book on a difficult and, at times, abstract subject. He has written about psychotherapy in language devoid of the verbiage usually associated with writers on this subject. His approach is that of a psychiatrist who is well grounded in general medicine.

He gives a clear, easily understood classification and description of the neuroses. The book is full of helpful information, short thought provoking case histories, and very practical advice as to method of treatment. There is a minimum of Freudianism and bizarre interpretation of symptoms. He is not a rigid protagonist for any "master" or school of thought. He attempts to apply the method that seems to fit each individual case.

This is a book that all doctors, regardless of specialty, will profit by reading.

D. W. J.

1947 YEAR BOOK OF PHYSICAL MEDICINE

Edited by Richard Kovacs, M.D., Professor of Physical Medicine, New York Polyclinic Medical School and Hospital; Attending Physical Therapist, Manhattan State, Harlem Valley State, Columbus and West Side Hospitals; Visiting Physical Therapist, New York City Department of Correction Hospitals; Consulting Physical Therapist, New York Infirmary for Women and Children, Mary Immaculate Hospital, Jamaica, N. Y., St. Charles Hospital, Port Jefferson, L. I., Hackensack Hospital, Hackensack, N. J., and Alexian Brothers Hospital, Elizabeth, N. J., Senior Consultant in Physical Medicine and Medical Rehabilitation, Veterans' Administration. The Year Book Publishers, Inc., Chicago, 1948. Price \$3.75.

This splendidly, concisely and scholarly edited 420 page text summarizes the outstanding articles appearing during 1947. The rapid scientific progress in the field of physical medicine and what it offers to the physician as an aid in effective patient diagnoses and treatment make it highly desirable that this volume form part of the library of the physiatrist and general practitioner, the neurologist and orthopedist—in fact, every physician interested in this newly recognized specialty.

There are many interesting illustrations covering numerous topics, e.g., thermotherapy, light therapy, hydrotherapy, mechanotherapy, arthritis and traumatic conditions, paralyses, and electrodiagnosis, rehabilitation and numerous others.

Conclusions are based on scientific data in consonance with the attempt to keep this specialty on the highest scientific plane. In the occasional article where this may not pertain, appropriate editorial comments are made.

NOTICE

Physicians are invited to indicate their desire to receive books for review through the JOURNAL, specifying the field of interest or particular book wanted. Upon request the JOURNAL staff will write for any new medical book which has not already been received. Address your requests to the JOURNAL, 505 Bankers Trust Building, Des Moines 9, Iowa.

SOCIETY PROCEEDINGS

MEETINGS

Black Hawk County

The regular meeting of the Black Hawk County Medical Society was held May 18 at 6:30 p. m. at the Elks Club. Dr. Tague C. Chisholm, formerly of the Children's Hospital, Boston, but now of Minneapolis, spoke on "Pediatric Surgery."

Cedar Valley Medical Society

Dr. N. A. Womack, head of the surgical department of the University of Iowa College of Medicine, spoke to the doctors of Butler, Mitchell, Chickasaw, and Floyd Counties at a scientific meeting May 4. His subject was "Gallbladder Diseases."

Cerro Gordo County

Dr. John M. Waugh of Mayo Clinic, Rochester, talked on "Surgery of the Large Intestine" at a meeting of the Cerro Gordo County Medical Society held at Hotel Hanford, Mason City, April 13.

Johnson County

Johnson County Medical Society met May 5 at the Jefferson Hotel for dinner and a scientific program. Dr. Walter M. Kirkendall, resident in the Department of Internal Medicine, and Dr. Robert E. Peterson, resident in the Department of Surgery at the University Hospitals, presented the topic, "Advances in the Therapy of Neoplasms."

Polk County

The Polk County Medical Society held its annual spring party May 19 at the Wakonda Club, Des Moines. Following a social hour and dinner, there was dancing and bridge.

Sac County

Members of the Sac County Medical Society met at Hotel Park, Sac City, for dinner and a scientific program on April 8.

Scott County

Dr. Russell Meyers, Professor of Neurosurgery at the State University of Iowa College of Medicine, spoke on "Early Management of Craniocerebral Trauma" at a dinner meeting of the Scott County Medical Society May 4. A scientific film, "Surgical Treatment of Varicose Veins and Ulcers," was shown.

Taylor County

The Taylor County Medical Society met April 12 at the home of Dr. and Mrs. Morton Crew. Don Taylor, field secretary of the Iowa State Medical

Society, spoke to the group on "Iowa Medical Service."

Washington County

At the regular meeting on April 29, the Washington County Medical Society gave a dinner honoring Dr. H. C. Hull, Washington, who has completed fifty years in the practice of medicine. Following the dinner, Dr. C. A. Boice presented Dr. Hull with the fifty year pin and a framed letter from the State Society welcoming him into the Fifty Year Club. The wives of the members were guests.

Woodbury County

An institute on pediatrics and obstetrics was featured at the monthly meeting of the Woodbury County Medical Society held May 6 at the Mayfair Hotel, Sioux City. At the afternoon session, Dr. Lee Forrest Hill of Des Moines spoke on "The Prevention of Behavior Problems in Children" and Dr. Daniel B. Landau of Hannibal, Mo., talked on "Infant Feeding." Following dinner the session on obstetrics was held with Dr. William J. Dieckmann of the University of Chicago Medical School speaking on "Early Recognition and Treatment of Toxemia in Pregnancy" and Dr. Kenneth E. Cox of the University of Kansas Medical School speaking on "The Rh Factor in Obstetrics."

PERSONALS

Dr. Richard L. Bartley has opened offices for the practice of medicine in Sully. A graduate of the University of Nebraska College of Medicine, Dr. Bartley served in the navy two and one-half years.

Dr. J. E. Black of San Francisco has opened offices for medical practice in Emmetsburg. Dr. Black received his medical degree from Creighton University, Omaha, and served in the Army Medical Corps during World War II.

Dr. Ernest L. W. Brown of Iowa Falls has retired because of ill health following forty-six years of practice. He came to Iowa Falls five years ago. His practice has been sold to Dr. Lewis H. Thomas of Welch, W. Va.

Dr. Ivan E. Brown of Forest City spoke to the members of the Winnebago County Public Health Council at the group's annual banquet April 21. He talked on the requirements of a healthful home environment.

Dr. J. R. Camp has announced his intention to

open offices in Thompson July 1. He will complete his internship at the Iowa Methodist Hospital, Des Moines, in June.

Dr. Roscoe P. Carney, Jr., has become associated with Drs. J. H. Sunderbruch and Robert Neufeld in the West Davenport Clinic, according to recent announcement. Dr. Carney was recently released from the Army Medical Corps in which he served two years. He was graduated from the St. Louis University School of Medicine in 1943.

Dr. Jay R. Dewey of Schaller spoke on cancer education at a meeting in the Auburn school auditorium April 26.

Dr. Charles V. Edwards of Council Bluffs spoke on cancer at a public meeting held at St. Patrick's Hall in Neola on April 13.

Dr. Robert M. Fisher of Weston, Mass., has become associated with Dr. Conreid R. Harken at Osceola. Dr. Fisher was graduated from the Columbia University Medical School in 1939. He served in the Army Medical Corps during World War II and was released from service in January, 1946.

Dr. Robert Flynn of Albia has been appointed to a residency in radiology at Veterans Hospital, Des Moines. He was released from active duty in the Army Medical Corps last December.

Dr. Edward A. Hanske, who was graduated from the University of Iowa College of Medicine last year and who will complete his internship at Mercy Hospital, Chicago, July 1, has announced his intention to practice in Bellevue.

Dr. Richard W. Hill has opened offices for the practice of medicine in Lake Mills. Dr. Hill, who has been doing postgraduate work in Michigan, has purchased the equipment of the late Dr. M. M. Hage and will occupy the former Hage offices.

Dr. David H. Hopkins has returned to Glidden from Pasadena, Calif., where he spent the winter, and will resume his practice about June 1.

Dr. Earl L. Kingsbury of Keokuk has returned after an extended stay in California where he took postgraduate work at the University of Southern California.

Dr. Frederick Moore, formerly of Gardner State Hospital, East Gardner, Mass., has been appointed superintendent of the Cherokee State Hospital.

Dr. Robert Myers will begin the practice of medicine in Monticello shortly after June 1. He was graduated from the State University of Iowa College of Medicine in 1945 and took his internship in the U. S. Naval Hospital, Portsmouth, Va. Follow-

ing his internship, he served two years in the navy, having been discharged only recently.

Dr. C. E. Radcliffe of Hartley spoke at the Rural Women's Day program held April 16 at Primghar. His subject was "Rheumatic Fever."

Dr. Ralph A. Ruch will head the Department of Dermatology at Cogley Clinic, Council Bluffs, according to recent announcement. Dr. Ruch has been associated with the Department of Dermatology at Mayo Clinic the past year.

Dr. Edward A. Rogers, Jr., of Pelham, Ga., will assist Dr. Henry F. Dolan of Anamosa until he enters the army July 1.

Dr. Adolph L. Sabs has been promoted to Head of the Department of Neurology in the University of Iowa College of Medicine according to announcement of Pres. Virgil M. Hancher. Dr. Sabs has been Professor and Acting Head of the Department since the retirement of Dr. Clarence Van Epps in 1946.

Dr. Cecil W. Seibert of Waterloo spoke at a meeting for cancer campaign fund workers held at the American Legion hall, Oelwein, April 23.

Dr. Ernest E. Shaw of Indianola was elected president of the state chapter of the American Academy of General Practice at an organization meeting held in Des Moines in April. Other officers elected were Dr. Chelsea D. Gibson, Sac City, vice president; Dr. Cecil V. Hamilton, Garner, secretary-treasurer; Dr. Paul F. Chesnut, Winterset, Dr. Ralph Gorrell, Clarion, and Dr. Charles A. Nicoll, Panora, directors.

Dr. Shaw has also been named a member of an eighteen member State Farm Labor Advisory Council, according to announcement by the Iowa Employment Security Commission.

Dr. Frank O. W. Voigt of Oskaloosa spoke to the Kletzing College faculty regarding a health program for a liberal arts college on April 20.

Dr. Julius Weingart of Des Moines spoke at a public meeting of the Dallas County chapter of the American Cancer Society in Perry April 13.

Dr. Soren S. Westly of Manly was elected president of the newly organized Lions Club of that city recently.

Dr. George W. Wilkinson and **Dr. Robert D. Rowley** left Bellevue May 15 to enter practice in Burlington.

MARRIAGE ANNOUNCEMENT

Miss Marjorie Ann Shloss, daughter of Mr. and Mrs. Sam Shloss of Des Moines, and Dr. Jack

Spevak, son of Mr. and Mrs. Morris Spevak of Brooklyn, N. Y., were united in marriage May 12 at Temple B'nai Jeshurun, Des Moines. Following a motor trip, Dr. and Mrs. Spevak will be at home in Des Moines where he is serving his residency at Blank Memorial Hospital.

DEATH NOTICES

Abegg, Henry Harvey, aged 74, of Dougherty, died May 11, 1948, at his home after a long illness. He was graduated from the State University of Iowa College of Medicine, Iowa City, in 1898. After practicing a year each in Blakesburg and Grafton, he came to Dougherty where he practiced until his retirement a year ago. He was a member of the Cerro Gordo County and Iowa State Medical Societies.

Crum, John Raymond, aged 65, of Stanwood, died May 4, 1948. A graduate of Bennett College of Eclectic Medicine and Surgery, Chicago, Dr. Crum had practiced in Stanwood five years. He was formerly a member of the Cedar County and Iowa State Medical Societies.

Everall, Bruce Bilo, aged 70, of Monona died May 7, 1948. He was graduated from the Drake University College of Medicine in 1901, and after practicing in Clinton two years he came to Monona. He was a member of the Clayton County and Iowa State Medical Societies.

Rowan, Charles Joseph, aged 73, of Los Angeles, Calif., died May 7, 1948, after an illness of several weeks' duration. Dr. Rowan, who was graduated from Rush Medical College in 1898, served as Professor and Head of the Department of Surgery at the State University of Iowa College of Medicine from 1913 to 1927. He retired two years ago because of ill health. Dr. Rowan was formerly a member of the Johnson County and Iowa State Medical Societies.

Swallum, Troy Warren, aged 56, of Spencer died May 5, 1948, in University Hospital, Iowa City, as the result of a heart attack. Dr. Swallum was graduated from the Hahnemann Medical College and Hospital, Chicago, in 1919, and had practiced in Spencer twelve years. He was a member of the Clay County and Iowa State Medical Societies.

Van Ness, Charles Sherman, aged 76, of Peterson died April 26, 1948, at his home following an extended illness. A graduate of Queen's University Faculty of Medicine, Kingston, Ontario, in 1904, Dr. Van Ness had practiced in Peterson since 1907. He was formerly a member of the Clay County and Iowa State Medical Societies.

Wallace, Robert More, aged 71, died April 15 at a hospital in Rochester. A graduate of the Bennett College of Eclectic Medicine and Surgery, Chicago, with the class of 1906, he had practiced in Algona since 1918. Dr. Wallace was a member of the Kosuth County and Iowa State Medical Societies.

WOMAN'S AUXILIARY

(Continued from page 273)

sicians to meet all demands likely to be made under a compulsory health insurance system. Additional requirements imposed upon the present active medical personnel could only lead to deterioration of quality of medical care. Today, health of the white population is ahead of health of larger nations of western Europe, and is 'virtually as good' as that of small nations with best records. Health surveys show that most illnesses in which medical care was lacking were of a minor nature ordinarily not regarded as requiring a physician. It spoke of the average family's 'disinclination' to put medical care ahead of non-essentials. This is 'often confused with ability to pay.'—Des Moines Register, May 10, 1948.

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES BOARD OF TRUSTEES

April 18, 1948

The Board of Trustees of the Iowa State Medical Society met at the Hotel Fort Des Moines in Des Moines Sunday afternoon, April 18, 1948, with the following persons present: Trustees John I. Marker, W. A. Sternberg and L. R. Woodward; president Harold A. Spilman; president-elect J. E. Reeder; and assistant secretary Robert L. Parker. Meeting was called to order at 5 p. m.; minutes were read and approved and bills were authorized. A report of the financial end of the state meeting was given; the Woman's Auxiliary program on nursing interests was explained and approved; and the board's business for the first four months of the year was brought to date: Meeting adjourned about six-thirty.

April 21, 1948

The Board of Trustees met on the last day of the annual meeting, April 21, to organize. Those present were W. A. Sternberg, L. R. Woodward, and B. T. Whitaker. Dr. Sternberg was elected chairman for the coming year and was authorized to sign all routine bills.

Necessary travel expenses of the three delegates, the secretary and executive secretary, were authorized for attending the two 1948 meetings of the House of Delegates of the American Medical Association. The board also voted to have the chairman of the Speakers Bureau advise it if attendance at national meetings would be helpful in procuring speakers for postgraduate courses—each request to be acted upon according to its merits.

Meeting adjourned at noon.

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THE WORLD MEDICAL ASSOCIATION

Elmer L. Henderson, M.D., Louisville

The pages of history are replete with dates of great events. It may be that one day historians will record that, on Thursday, Sept. 18, 1947, in Domus Medica, Paris, the home of the French Confederation of Medicine, the World Medical Association was born with the adoption of its Constitution and By-Laws by one hundred twenty-five delegates from forty-eight nations.

Attempts to organize at least a section of the organizations of doctors of the world were made some twenty-five years previously. Largely under the influence of the Medical Association of France, a few European countries succeeded in forming the Association Professionnelle Internationale des Medecins. For a number of years, this organization held an annual meeting and unquestionably proved to be useful and acceptable to a number of countries.

With the coming of World War II, the Association Professionnelle Internationale des Medecins of necessity had to suspend its operations, but during those long fateful and hateful years, the spirit of the Association did not die. Early in 1946, some of its former officers, together with officers of the British Medical Association, discussed the advisability of inviting the national medical associations of the world to consider the possibility of reviving an international medical body. Accordingly, joint invitations were sent to all the medical associations of the world requesting delegates to a meeting in London in September, 1946. Representatives from thirty-two national medical associations responded and, for the better part of a week, under the chairmanship of Sir Hugh Lett, President of the British Medical Association, discussions took place with regard to the desirability of forming an international medical body. In that conference the following points were noted and underlined as meeting with unanimous approval:

1. That the medical profession throughout the world had common problems and common interests.

2. That the medical profession of all countries could learn much from one another to their mutual advantage.

3. That the cooperation of the medical profession of the world is vital to the success of the World Health Organization, which body had been founded by the United Nations.

4. That world-wide unity and harmony among peoples, so greatly to be desired, offers a challenge to the medical profession for demonstration.

5. That much needed assistance could be given by the profession, particularly to those countries whose medical facilities, hospitals and libraries had been destroyed during the war.

6. That there was apparently much to be gained and nothing to be lost by friendly cooperation among and between the national medical associations of the world.

7. That, if the doctors of the world, with a common objective, actuated and motivated by the ideals of humanitarian service, could not cooperate in a world-wide fashion, there is little hope for humanity in other walks of life to do so.

The weight of argument in support of organization was so overwhelmingly strong that, by unanimous resolution, the conference agreed that a World Medical Association should be founded. An organization committee of nine persons was appointed with instructions to draft the constitution and by-laws, work out a program and convene the first General Assembly of the World Medical Association in Paris a year hence. Before adjourning the meeting, Sir Hugh Lett summed up the conference most appropriately when he said, "History has been made in this conference which will do great credit to the medical profession of the world. The World Medical Association has come into being because medical men of good will from all parts of the world desire it—not for selfish purposes but in order that they may further the brotherhood of man and assist in the

protection and the saving of human lives." Sir Hugh Lett's words might indeed be accepted as the motto, the Magna Charta, the predominant theme of the Association.

During the ensuing year, the organization committee met four times, twice in London and twice in Paris, and devoted its energies to the preparation of a Constitution and By-Laws and the outlining of a program for the new body. It was finally decided to reconvene the second conference in Paris during the week of Sept. 16, 1947. One hundred twenty-five delegates and observers from forty-eight national medical associations answered the roll call. For two days the conference directed its attention to a meticulous consideration of the Constitution and By-Laws. The proceedings did not always flow smoothly, but, considering the complexion of the meeting, the differences in environment and languages, the amazing thing is not that differences of opinion did arise but that such harmony and unity prevailed as was evident throughout the conference.

The conference unanimously adopted the constitution which provided for the following objectives:

1. To promote closer ties among the national medical organizations and among the doctors of the world by personal contact and all other means available.
2. To maintain the honor and protect the interests of the medical profession.
3. To study and report on the professional problems which confront the medical profession in the different countries.
4. To organize an exchange of information on matters of interest to the medical profession.
5. To establish relations with and to present the views of the medical profession to the World Health Organization, U.N.E.S.C.O., and other appropriate bodies.
6. To assist all peoples of the world to attain the highest possible level of health.

These were the objectives set down and promoted by the organization committee. At the meeting in Paris the American delegation insisted on one other objective, "To promote world peace," which was included in the list.

Summarizing these objectives, they might be concentrated in a simple sentence, namely, to assist all mankind to enjoy the highest possible level of health and to promote world peace. Could there be any finer challenge to humanity or a grander opportunity for the medical profession, representing as it does the ministry of healing, to demonstrate man's humanity to man?

The atomic bomb brought home to the conscious-

ness of all thinking people the stark, naked fact that man now has it in his power to annihilate mankind. It surely could not be argued that that is what man wishes to do, but the fact remains that, if man is to guard himself against annihilation, he must be prepared to demonstrate not only his desire but his ability to make life for all mankind worth living. The World Medical Association should be under no illusions or delusions as to its necessity or ability to protect man against all the vicissitudes of human existence. But the World Medical Association has a vital part to play in world affairs which, moreover, cannot and will not be performed by those outside the medical profession.

The by-laws which were adopted by the association as working instruments in support of the constitution make it possible for every national medical association in the world to enter this new body. Fees to be levied were kept low so that no national association would be deterred from joining because of costs. Particularly will this be appreciated by those nations who suffered so greatly during the war and whose financial status yet requires to be greatly strengthened before they are back to normal.

Happily, the American Medical Association delegation, together with a number of influential business friends, was in a position to offer to the World Medical Association financial support in the sum of at least \$50,000 a year for five years, to staff, equip and operate the head office of the Association and to provide for the traveling costs of Council, it being understood that the head office would be located somewhere on the North American continent. After prolonged discussion, this offer was accepted. The Council was authorized, in consultation with the American and Canadian Medical Associations, to select a site. That Council has decided to place the headquarters of the Association in the spacious building of the Academy of Medicine in the City of New York. That office is now in operation.

The constitution and by-laws provide for four officers, president, president-elect, treasurer, and chairman of council, together with nine other elected members of council. The first president is Dr. E. Marquis of France who most graciously presided at the first general session which was held immediately succeeding the adoption of the constitution and by-laws on Sept. 18, 1947. The general assembly, having decided to meet in Prague in 1948, then proceeded to elect Dr. James Stucklich of that city as president-elect. Dr. O. Leuch of Zurich, Switzerland, was elected honorary treasurer; Dr. Charles Hill, secretary of the

British Medical Association, kindly agreed to act as honorary secretary, and the following ten persons were elected members of council: Dr. Louis H. Bauer, United States of America; Dr. Jose Angel Bustamante, Cuba; Dr. P. Cibrie, France; Dr. Alexander Hartwich, Austria; Dr. P. Z. King, China; Dr. D. Knutson, Sweden; Dr. J. A. Pridham, Great Britain; Dr. T. C. Routley, Canada; Dr. S. C. Sen, India; Dr. L. G. Tornel, Spain.

Council, at its first meeting, elected Dr. T. C. Routley of Canada as chairman and Dr. D. Knutson of Sweden as vice chairman.

On the completion of the organization activities, the General Assembly proceeded to discuss questions of vital importance to the medical profession of the world. Particular emphasis was laid upon the necessity of outlawing medical war crimes and, in this connection, a resolution was adopted unanimously, requesting the German Medical Association to repudiate all such crimes and deal effectively with all who have committed them before the Association would be admitted to the world body.

It was hoped that some time might be available to discuss the relation of the medical profession to the state, but so much time was consumed in organization that that important subject had to be held in abeyance for the next meeting.

The Council was instructed to proceed as quickly as possible with the assembling of information of medical and allied problems throughout the world so that intelligent understanding and advice in connection with these important matters may be made available between the various countries.

Council, which must meet at least twice a year, arranged to hold the next meeting in the city of New York during the last week of April, 1948, following which the members were given an opportunity of seeing at least part of the United States of America, traveling as far west as Minneapolis as guests of the American Medical Association, the Mayo Foundation, the University of Minnesota and several other universities.

As soon as may be practicable, the Council proposes to appoint an executive secretary (of the New York office). Member associations throughout the world have been invited to forward nominations of persons whom they think would be qualified for this position. All such nominations will of course receive the careful consideration of Council and it is confidently believed that the organization will be successful in attracting to itself a most competent person to direct that office.

The World Medical Association has passed from the dream and embryonic stage to that of a young and vital infant. What the future may

hold for the Association one can but vaguely predict. There can be no doubt, however, that the World Medical Association stands on the threshold of a world seething with unrest, chaos, suspicion, doubts and elements of discord, any or all of which might precipitate the world into another war more horrible than any which has gone before. What must we do to prevent another war? What can you do? What can I do? The situation is a problem of the personal equation. Perhaps we, the doctors of the world, more than 500,000 of us, speaking many tongues, holding many creeds, representing many colors, can make a contribution toward world peace in a larger measure than we can yet envisage. In holding out to one another the hand of fellowship; in going into one another's lands bearing gifts of good will; in offering to one another information, ideas and such help as we may without any thought of gain or reward, we surely shall demonstrate to each other and to the world that man's humanity to man rises above all other considerations, breaks down all barriers and says, in effect, we shall live together in peace rather than destroy each other in war.

Since the meeting in Paris mentioned earlier, a committee has been organized by the American doctors and the ethical pharmaceutical houses. This committee has been enlarged. It has been incorporated under the laws of the state of New York, and they are actively soliciting members to the United States committee for the development of the World Medical Association, both in the medical profession and in the pharmaceutical industry. Thus far, members of the medical profession who have been contacted have responded remarkably well, and the pharmaceutical and drug industry have done likewise. They are much interested.

FORTY YEARS IN GENERAL PRACTICE

Conreid R. Harken, M.D., Osceola

Last Sunday I brought my secretary and her typewriter home and spent hours trying to compress forty years of general practice into half as many minutes. The result so distressed me that I thought either to discard it and just ad lib. or fake an alibi and stay away. Notwithstanding, I'm here, I have my paper and I'll read it to you.

Surely many specialists, who explore only the remote and farfetched fringes of the medical sciences, are often confused and confuse others. Too often they isolate themselves from the main

course of medical thought and derive lucidity only from those in their own groups, whose ideas are in the same state of confusion as their own.

Please pardon me if I seem to boast a bit for, after all, I'm away from home and modesty is but egotism turned inside out.

* * *

Recounting "Forty Years in General Practice" comes not as an urge or an inspiration, nor does it spring from idleness or insomnia, but rather—as a request and an assignment. Interest in medicine came when infancy was just merging into childhood, when the family doctor called for occasional family ills and seasonally to lance "Dad's quincy." On that June morning, now so long ago, the callow youth set his feet upon the tortuous pathway he has been privileged to travel for so long. Nineteen hundred and seven was a year of panic, so to return to native haunts and live under the parental roof seemed better than the hazards of hunger.

Those were the days of lamp flues, roller towels, collar buttons, foot warmers, oil lanterns, coon skin coats, mud roads, frozen ruts and snow-drifts.

Many doctors were in the field and competition keen and vigorous, our old family doctor not excepted. The world was not yet motorized. Horses were the power for transportation. Nor was it the proverbial old Dobin pulling a be-whiskered M.D. in semi-somnolent rumination. Morgans, Hamiltonians and Hackneys were the breeds of choice—Morgans for unfailing service, Hamiltonians and Hackneys for metal, speed and style. Top buggies with robes and curtains were the vehicles for stormy weather, shining rigs with rubber tires on balmy days, and sleighs drawn by sharp shod horses on snow and ice. Saddles were a convenience and a pleasure.

Those were epidemic days—typhoid fever, diphtheria, smallpox, scarlet fever, whooping cough, influenza and pneumonia with complicating sequelae such as empyema, pulmonary abscess, etc. Immunization was not yet practiced. Even smallpox vaccination was commonly regarded with suspicion. The cholera infantum death toll each summer was appalling and pathetic. The author almost lost his infant son from this disease but gained a specific interest. In Chicago, he learned of Eiweiss Milch of Finkelstein. Commercial protein milk was not yet available. Pepsin and rennin were added to pasteurized cow's milk, the curd strained through gauze and washed; put through a fine sieve and added to fat free butter-milk. The product, sealed in fruit jars, in buck-

ets of ice was carried to the young patients. Recoveries were marvelous and gratifying.

My present offices and hospital were established in 1911. In a building on the premises a secluded room was equipped for the practice of surgical technic. Bones from the butcher were used for wiring, plating and inlay grafts; animal intestines for resections and anastomoses; live animals (usually dogs) for practice and experiment on living tissues. The value and advantages of such an arrangement are obvious.

The first paper written for the local medical meeting pertained to the muscular origin of the heart beat, an unbelievable theory for the time and occasion. It was vigorously contradicted.

Rubber gloves were seldom seen. Solutions of potassium permanganate and oxalic acid were used for hand disinfection. Vaginal examinations and manipulations were routine in obstetric practice. Puerperal infections occurred all too often. The literature was reviewed, particularly the pioneer work of the versatile Holmes and of Semmelweis, and another paper prepared. It was well accepted.

"Considerations Essential to an Understanding of Infections" came next. A paper was written pertaining to diabetes in the preinsulin days when it was really a problem. Others followed on "Minor Surgery"; "Felons, Carbuncles and Other Abscesses"; "The Pernicious Practice of Purging in Abdominal Pain"; "Head Injuries"; "Haemorrhoids"; "Empyema"; "Pernicious Anemia"; "The Technique of Tonsillectomy"; "Intestinal Obstruction," etc.

The little girl next door had tonsillitis, then rheumatic fever, polyarthritis, nephritis, endocarditis, acute chorea and death. This harassing experience prompted the writing of "The Tonsil as an Etiological Factor," published in the *State Journal*, 1913, and later in the *Journal of Ophthalmology and Otolaryngology*, then in *Semmens Centralblatt Fur Laryngologiä*, translated by Emil Maher of New York, American collaborator. This was the first paper in medical literature on the subject.

Disturbed thyroid function was confusing. Metabolism machines were not in common use. The layman seemed to know as much about goiter as the average doctor. To simplify and elucidate the subject a paper was prepared for the State Society in 1926 and published in the *Journal*. A thousand word abstract was requested by the *New York Journal of Neuro-Psychiatry*. Many salutary letters were received from individuals such as Jelliffe and White, Jackson, Menninger, Olson, Hertzler and former professors. "Daddy"

Chase in his letter said that it was the first time he had really understood the subject.

Gastric analyses commonly revealed hypochlorhydria in carcinomatosis, irrespective of organs involved, just as in carcinoma of the stomach. Such evidence of acid deficiency and alkalosis aroused interest. An attempt was made to produce acidosis therapeutically. Carbon dioxide inhalations, paper bag rebreathing, ammonium chloride, hydrochloric acid, ketogenic diets, and radiation were used in advanced and incurable cases. Recessions and prolongation of life were accomplished. The paper, "Cancer and Hydrochloric Acid," appeared in 1931. Correspondence, especially from research workers, followed. A discussion was invited at the cancer symposium, state meeting, 1931. Possibly the last word on the "acidotic theory" has not yet appeared.

Traumatic cases are generally problems for the general practitioner. Fractures appear without invitation or arrangement. The evolution in treatment during forty years is impressive, particularly hip pinning, skeletal traction and ambulatory methods. Jaw fractures, formerly so formidable, have intrigued me. They are effectively stabilized with eyelet and arch bar wiring. The method is relatively simple and applicable to more than 90 per cent of maxillary fractures. Various phases of these problems were prepared and presented to medical and dental societies. In treating fractures the simple and available means are to be studied and applied. "The biggest fish are usually caught, not with fancy tackle, but by the simple well baited line cast by the experienced angler."

Medical knowledge today is so vast and changing that it can no longer be simplified and epitomized—nor can it be lodged within the confines of a single cranium. Psychiatry and psychosomatic medicine, "the newly hatched baby" which deals with the interrelationships of mind and body, represent a return of medicine to its more humane and psychiatric beginnings. The modern psychiatrist, destined though he is for an important role, is not exclusive in his comprehension of the complexities and inner struggles of the human mind, so essential for an understanding of and service to our fellow man. Such insight is more often observed in artists and poets than in scientists. I have seen it in simple men who spend their days plowing and planting; in thoughtful housewives and intelligent mothers; in ministers, lawyers, bankers and especially in family doctors. Sensitive people are often aware of an inner struggle. A. E. Housman has described it in himself.

The stars have not dealt me the worst that they could do,
My pleasures are plenty, my troubles are two—
But oh, my two troubles they reave me of rest,
The brains in my head and the heart in my breast.

Oh grant me the ease that is granted so free,
The birthright of multitudes, give it to me,
That relish their victuals and rest in their beds,
With flint in the besom and guts in the head.

In compiling my paper I am reminded of the simple fellow who purchased a dictionary for light reading and complained that the author changed the subject so frequently.

The greatest writer of short sensational stories is life itself. Certainly the life of a busy and devoted family doctor multiplies this postulate many fold—for he shares so abundantly the fortunes, joys, cares, tragedies and emotions of so many others. The time allotted can portray but a smattering of the accumulated memories and material which could furnish writers with plots and themes for the rest of their lives.

One person in particular, however, you surely should know, Aunt Het, who at 85 had a fall and a fracture, intracapsular. A reduction and a pin let her walk again as of yore. Two years later, at four score and seven, her intestines tangled with a long pelvic adhesion resulting in obstruction of the ileum. Wangenstein tubes, intravenous glucose, a transfusion, avertin and local anesthetic and exteriorization of the gangrenous segment were not too much for old Aunt Het. There followed later resection and anastomosis.

In three more years, when four score and ten, some more of her intestine started an excursion through the femoral canal and strangulated. With local anesthesia the strangulated mass was reduced and repaired, Aunt Het undaunted. A few days later when pursuing rounds, bedcovers were thrown back and the doctor's index and second fingers pulled down the inguinal dressing for wound inspection. Aunt Het, amused and interested remarked, "Doctor, if you'll tell me what you're looking for maybe I can help you find it." Subsequently, thanks to modern medical armamentarium, she survived influenza, pleurisy, pneumonia and pyelocystitis but finally yielded to "the major involution"—cerebral sclerosis—nephritis—myocarditis.

Though she faithfully followed the scriptures, she feigned a preference for fiction—and facetiously remarked that "she had never read her Bible through because she became confused when she got to the begats and quit." I am wont to believe that "old Aunt Het" with her indomitable courage and grit has won her halo and golden harp and that those old sinewy fingers are strumming the cords somehow, somewhere beyond the seraph guarded gates.

Forty years have accorded great satisfaction

from associations and friendships with the young men launching upon their professional careers. The list is long, and includes my son, Dwight, from whom the following letter was received:

Boston, June 8, 1947

Dead Dad:

I shall await news of your class reunion—a significant reunion when one meets his colleagues to recognize their fortieth year out of school. Certainly I am not being sentimental—unduly—when I reflect on the obvious. Forty years of sincere hard work do add up to a lot of service. One cannot but wonder how many miles of roads have been covered, how many times you have answered the telephone, how many times the rebellious body and spirit have been overcome in the night and the dictates of conscience given control.

This is no time to tally the score, but it would be a fascinating set of statistics to know the number of lives that have been launched and to know something of the variations in the long series.

One cannot quantitate pain relief, but there has been a lot in forty years, nor can we quantitate the satisfaction that has been derived from providing that relief. It has been great, however, and I am certain that one can never tire of that delightful buoyancy of spirit that every good physician feels when he realizes that a very sick patient has turned onto the road to recovery. You must have had that secret personal reward thousands of times.

My inclination is to ramble on with this sort of stuff ad infinitum, but the point is never made and the flavor deteriorates. If I knew how to express simple sincere admiration, I'd do it and stop the letter.

Tonight I took a hat pin out of a bronchus from a little 11 year old child. It went smoothly and all the way home I had that "buoyancy of the spirit" that is perhaps peculiar to our profession.

Love,
Dwight

Years ago it was said by William Osler that the public bases its estimate of the medical profession on its opinion of the family physician, who is the yardstick by which medical care is measured. Dr. Walter L. Bierring, in his presidential address before the American Medical Association in 1934, predicted that the new type of family doctor or general practitioner would be the "central figure in the field of medical practice, as in ages past," that he would be competent to care for 85 per cent of general medical practice,

besides being equally competent to seek advice and aid in the other 15 per cent." However, the ratio of general practitioners to specialists entering the field is the reverse of these figures.

The creation of a section on general practice as a feature of the annual session of the American Medical Association is an eleventh hour atonement. Thank God they avoided a posthumous recognizance. More than a score of years ago it was asserted that the general practitioner, the family doctor if you please, was obsolescent and within another decade would become completely obsolete—that he was following the dodo, the bison and the passenger pigeon. The ruthless and merciless manner in which the specialists were dividing his raiment among themselves seemed then, as always, valid evidence of an impending crucifixion. He escaped the tomb, however, and in the speaker's humble opinion is due for a renaissance and not a resurrection.

There are supernumerary specialists and too few general practitioners. People are resentful. The profession should recognize the trends and needs. Medical colleges, medical societies and hospitals should cooperate to encourage and train more men for general practice thus to meet the challenge of those groups who bedevil human society in this country today, the socializers, the irregulars and the cults.

If the basic law of supply and demand operates through the next economic cycle there will be a flow from the specialties to general practice, yet these men will have been ill trained and ill prepared.

General practice comprehends the practical recognition and treatment of disease. Its greatest stimuli and most abundant rewards come from the active and intensive cultivation of the specialties. A specialty is any part of medicine or surgery in which the physician may particularly qualify himself. Specialties have their roots in the broad field of general medicine, which is at once the richest of the sciences and finest of the arts.

Forty years have given our profession extraordinary privileges and advantages. Western society traditionally grants special privileges to its stronger and more fortunate members, and like every privilege they carry with them certain obligations as a kind of payment. No person or profession has an inherent right to any privilege or advantage except as represented by the acquiescence of society. If we neglect our obligations we most certainly speed the day when these privileges will be curtailed or denied.

WHY I CHOSE GENERAL PRACTICE

George W. Wilkinson, M.D., Burlington

I have now been in the private practice of medicine a little less than one year. As such a newcomer to the ranks of the general practitioners of Iowa I feel honored to appear before this Society. I stand before you in all modesty, realizing that my mental processes in deciding to choose general practice have been experienced by many of you. It may be asked why there is any excuse for such a subject, "Why I Chose General Practice." I especially asked myself this question while I was formulating this paper and wondered if it perhaps was ridiculous that I should talk about such a matter, especially before the State Medical Society. I have concluded that my words here are justified if they do nothing more than give some courage to other young men who are contemplating such a step as I have just taken. It is my hope that I can assure them that my few months in practice have convinced me that there is an expanding field for the physician in general practice.

I told a young doctor that I had been asked to read this paper on "Why I Chose General Practice." He said, "That shouldn't take long; you had two reasons—hungry wife—hungry baby." I hope that there have been more reasons than these.

In the years before the decision to enter general practice it was necessary to decide to study medicine. That decision was the result of the same environment which has produced many doctors before me. I grew up in the home of a "family doctor." However, even by the time I started to elementary school, although I was sure I would be a doctor, I was not unaware of the advantages of specialization. I was accustomed to hearing my father get up and go on calls during the middle of the night, often not to return home until morning. So, at that early age I informed my mother that when I grew up, I would take care of the office patients while Dad made the house calls.

I studied medicine at the University of Iowa. While I was in medical college it was my desire to eventually engage in a broad type of general practice after obtaining sufficient postgraduate training to become competent. That was before I knew much about medical politics or had heard about closed hospital staffs and the limitation of hospital privileges.

I cannot remember much emphasis being placed in medical college on the advantages or virtues of

general practice. There is no criticism of the fact that our professors were specialists; this was probably unavoidable. But as medical students working in the wards of the University Hospitals we were in close association with the residency system of postgraduate training. Each resident was taking a three to four year residency with a goal of becoming rated as a diplomat of one of the specialty boards. I just did not know any residents who were taking training to become general practitioners. In fact, postgraduate facilities for such training at the University Hospitals apparently did not exist. Thus, by the time we were graduated from medical college we were deeply submerged in the atmosphere of specialization.

I interned at Augustana Hospital in Chicago. This is the hospital where the great Dr. Albert J. Ochsner worked. I do not believe it is known by the younger men of today that Dr. A. J. Ochsner, although he was a famous surgeon, was also a general practitioner. Dr. Ochsner's belief in general practice has been carried on by his successor, Dr. Nelson M. Percy. Consequently, Augustana's staff has consisted of many general practitioners who have been practicing a broad type of medicine and surgery. It was association with these staff doctors which again stimulated me to consider general practice.

The internship was followed by some time in surgery under Dr. Percy. Then came the army. In the army it became evident that specialized training was of paramount importance. Formalized residency training and board certification were the primary deciding factors which obtained the pleasant and interesting hospital assignments.

Thus, with a background of a good medical college with its atmosphere of specialization and with the observations on specialization in the army, I began to doubt the prudence of entering general practice. Like many young men who were leaving the army, I was afraid that if I did not strive for board certification in some field, my hospital privileges would some day be so limited that I would be forced to refer all but the most minor cases, as was the fate of the dispensary or "sick call" officer in the army. It was distasteful that I should relegate myself to the roll of pimping for the specialist. With this in mind I returned to a surgical residency at Augustana Hospital in Chicago.

The time spent as surgical resident was pleasant, but after many months of such training I came to that part of my residency which required that I enroll for nine months in a basic science course. This would mean that I must leave the hospital and patients and return for nine months

to lectures on such subjects as biochemistry, physiology, and anatomy, much like the first two years of medical college. These are important medical sciences, but this was a dreary prospect after seven years of college and having already obtained a doctor's degree. Such endless repetition even to become a good surgeon seemed futile. However, it has been my observation of the residency program of today that the young physician's time is considered of little value. Perhaps this attitude is necessary to curb the number of so-called well trained men. But there is no escaping it in the modern residency training. This may be responsible for the resigned attitude of young men that the number of years in residency are of more importance than how the years are spent. It may be a reason why men who have been in practice are not wanted as residents—they are too inclined to think for themselves and resent this waste of time.

Until now my years of surgical training had been valuable and fruitful. But this basic science course forced me to crystalize some doubts and opinions about medical practice which had been gradually growing in my mind during these years of postgraduate training. Why was I in a surgical residency? The first and major reason was to learn to be a better doctor. The second reason was to become certified by a specialty board. And why this second reason? This was because I was afraid of the limitations and restrictions which board men, certified specialists, and medical politicians would attempt to clamp upon me if I did not become certified.

I believe this latter is responsible for much of the craze amongst the younger doctors for specialization. No one will deny that a certain number of specialists are necessary for the treatment of the rare and complicated medical and surgical conditions. But, after the average physician obtains a doctor's degree after a rigid college course, then takes a year's internship, and then perhaps more months or years of residency training, does he all at once become mental pigmy? Are his mental capacities then such that he must either confine himself to a narrow specialty or to a humble general practice, modestly directing his patients to this or that specialist? This is hard to believe. In some of our popular magazines you have all seen articles which have been sponsored by some of the specialty groups. These articles would lead the public to believe that it is being protected from inferior medical care by the watchful eye of the certified specialist. But, I am afraid the protection is of the pocketbooks of these same medical men. Every doctor, general practitioner or spe-

cialist, has limitations of his ability. The only factor which will insure the public good medical care is the honesty of the individual doctor and a certificate of efficiency cannot be issued on this.

Faced with the prospects of this basic science course I concluded it would probably be useless in making me a better doctor. With this conclusion I decided to ignore it. I felt that my training until this time had been good, but that my postgraduate course had now reached the point where further continuation with it would be a waste of time. I thought that now I was able to safely handle most of the prospective patients who might come to me. I decided to enter general practice and treat those cases in medicine, obstetrics, and surgery that I could care for safely. I resolved to really find what the practice of medicine was like before I had been swept along in the stream of education until I had lost my initiative and ambition. Other factors lead to this decision.

This paper in a sense is a public confessional, so as such let us proceed, being truthful, including all basic facts. Let us consider money. Before spending more money and time it seemed wise to consider seriously along with more abstract factors the financial returns to a physician in various forms of endeavor.

It appears that nearly every young doctor of today wants to specialize. This is going to reduce the average income of many specialists in the near future. It is going to be difficult for many a specialist to find a location because of the increase in his numbers. So, why not enter a field where the need is more evident?

From the economic point of view it is my observation that there is a good living to be earned in general practice.

Perhaps the family doctor has the opportunity to accumulate a clientele who will return to his office year after year with the common ailments. This may insure the family physician of an increasingly steady income which possibly may be a little more secure than the refer type of specialty practice.

I believe it is an accepted fact that there is a need for general practitioners. It seems that this need exists in small towns and cities alike. I was shown a letter the other day from a woman who lives in one of Iowa's larger cities. She was writing how worried she was that she could not find a doctor who would make house calls on her sick children.

It is certain that the average patient cannot afford to go to a different specialist for treatment of the usual ailments of his different systems. Nor are limited finances the only thing that drives

people to general practitioners. I know a young general practitioner on Michigan Boulevard in Chicago who has a growing practice. He has a rather exclusive clientele, if money is a gauge, and his patients tell him that they are patronizing him because they are tired of being shunted from one specialist to another.

So, as the ranks of specialists increase, I hope the public demand for my comparatively rare type of general practice service will increase, as will my income.

But, as a high school and liberal arts student I was sincere in feeling that I did not wish to spend my life in a vocation, the goal of which was only money. I have not lost that feeling and believe that general practice offers real opportunities to give a needed service.

A general practitioner, above all doctors, is the best able to furnish advice to his patient, unprejudiced by the confining walls of a specialty. To remain a diplomat in good standing in certain specialty boards, it is necessary for a physician to confine his practice to that specialty. The number of unnecessary operations and treatments is not going to be decreased by forcing physicians to so confine their efforts; the economic pressure is just too great. So, I do not believe any patient should go to a specialist until he has first been seen by a good general practitioner who can evaluate his condition in an unprejudiced manner. There lies a great opportunity for service.

In general practice there exists the opportunity to see disease early when a simple cure may be possible—to cure the disease before it has become so advanced that specialized and complicated care is necessary. The importance of the doctor who makes the house calls is underrated. Many an important diagnosis is made at the bedside at home.

The field of preventive medicine lies wide before the general practitioner. In the endeavor of early cancer detection the general practitioner is the most important man. To detect early malignancy it is said that every woman 40 years of age should have a complete physical examination every nine months. The general physician is in an excellent position to suggest and urge these examinations as the woman comes into his office with her family's and her own common ailments. Thus, the opportunities for service grow in number.

I do not believe from my limited observation that our nation is in need of socialized medicine to provide adequate care for our people. But, there is discontent among some of our population. It is still the general practitioner who is desired

and needed by the majority of the people to treat their common ailments and to make their house calls. If this basic element, the general practitioner, decreases too much and his scarcity passes from inconvenience to need, the agitation for socialized medicine will probably increase. Thus, today the general practitioner is one of the foremost bulwarks against government regimentation of medicine. I am proud to be one of a group which is so important.

In this short time I have attempted to give you an honest picture of why I chose general practice. In the past few months I have been increasingly convinced that this decision was wise. I hope that as the years go by the scope of my practice will be allowed to increase as my experience and ability warrant.

THE RENAISSANCE OF THE GENERAL PRACTITIONER*

Arthur D. Woods, M.D., State Center

Since the turn of the century the increase in scientific medical knowledge has been tremendous. This is a great thing indeed, but with this increase has come a steady decline in the distribution of medical service.

Fifty years ago it was comparatively easy to gain entrance to a medical school. Two requisites were necessary, a diploma from an approved high school and satisfactory evidence of good moral character. With the successful completion of the four year course of medical instruction the candidate was admitted to the "Degree of Doctor of Medicine with all the Rights, Privileges and Immunities pertaining to this degree here or elsewhere." The candidate then appeared before the Board of Medical Examiners and, by reason of the fact that he had received a diploma from an approved medical school and had passed a satisfactory examination before the board "in Medicine, Surgery, and Obstetrics," he was granted a license to practice medicine in the state of Iowa.

The next step was the selection of a location. Much of the conversation among the students at the close of their senior year was given over to the question, "Have you found a location?" And somehow, strange to relate, the whole business worked. Locations were found, and an adequate distribution of medical service, such as it was, was achieved. How simple, how nice were those good old days before the impact of world cataclysms. As compared with the present day the

*Address of the chairman of Medical Section.

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period from 1900 to 1914 was calm and peaceful, and the placidity of human life was like a smooth, slow moving stream.

Just prior to the first World War medicine began to feel the effects of the great surge of scientific knowledge. In 1913, or thereabouts, the American College of Surgeons was born. In rapid succession came the other specialties. Medical education fell into line. Clinical instruction became more or less an uncoordinated affair. A great deal of the instruction was based on old, advanced pathology with little importance given to disease in its incipency and with little resemblance to sickness as seen in private practice. In Biblical terms, the patient was found to be fearfully and wonderfully made and of many parts. To take care of the many parts, group practice sprang up everywhere. By this arrangement the patient ceased to function as a clinical entity. The great era of the specialties had arrived. General medicine languished.

In the meantime, what happened to the medical student? In addition to his high school diploma and satisfactory evidence of good moral character he found it necessary to spend three or four years in premedical education. After that came an aptitude test. If this proved satisfactory, his case then came before a tribunal of educators who, wise in their own conceit, decided who could and who could not study medicine. (Parenthetically, the thought might be interjected here that possibly some Mayos or Oslers are left on farms and in factories by this process of selection and rejection.) But if a happy decision resulted then the prospective student entered the medical school.

Let us now contemplate for a moment what is expected of this student within the first twenty-two weeks of his freshman year. Within so short a time he must learn all there is to know about human anatomy, and the subject is not brought to his attention again until the State Board of Medical Examiners does so. If this thought is a bit disturbing to a contemporary, what must it do to the spirits of Vesalius, Gray, Cunningham and many other great masters? Forty years ago it seemed desirable that the student should be anatomy minded at least throughout his freshman and sophomore years with some review during the clinical years. Today the time devoted to anatomy is shortened with the advent of every new specialty. The comparison between anatomy as taught today and three or four decades ago is a fair example of the increased tempo of medical education. A bombardment of scientific facts is meted out to the student with little time for

orientation and application of such facts to the problems of disease and injury.

Again, as was the case forty or fifty years ago, when the four year course in medicine is completed, the candidate "is admitted to the Degree of Doctor of Medicine with all the Rights, Privileges and Immunities pertaining to this degree here or elsewhere." But here an incongruous situation develops. While the diploma grants him all "the rights, privileges and immunities," he is not permitted to exercise these prerogatives until a prescribed period of internship is completed. He may then go into practice, but he is more likely to choose a residency of from one to five years. In direct proportion as the time of internship and residency increases there comes an increase of timidity or reluctance on the part of the young doctor to face the problems of general medicine. Not more than two years ago a young doctor who was an exceptionally good student, whose internship had been of the best, and whose experience in the service had been well above average, told me that he did not feel competent to go into the practice of medicine. His next remark was a revelation. He said he must have an extended residency and must pass a specialty board because he did not feel he would ever have any standing in the profession of medicine if he went out with only the degree of M.D. This is not said in any criticism of the young doctor. It merely goes to show another cause for a deficiency in the distribution of medical service. There is something wrong with the psychology of medical education when, after eight or nine or ten years of intensive study, a young doctor of exceptional worth does not feel competent to go into practice. Further intensification of this attitude will continue to play right into the hands of those who would socialize the practice of medicine.

With the advent of the second World War the civil distribution of medical service dried up. The armed forces took all the doctors whom an accelerated medical program could produce. This was a lush opportunity for osteopath and chiropractor. Since these cults were not accepted in the governmental services, they swarmed into areas made vacant by an inadequate medical distribution.

But that is not all. Before the close of the last war we were given proof of another disturbing factor. A questionnaire was sent to all medical personnel to learn what sort of location would be desirable when the doctors returned to civilian practice. The great majority chose the larger communities with a population of 25,000 to 250,000. Less than 1 per cent indicated a preference for towns of 2,000 or less. This did not augur

well for any improvement in the distribution of medical service.

Until Dec. 4, 1945, the affairs of the American Medical Association continued under the domination of the specialties. For several years previous to that time resolutions had been introduced in the House of Delegates of the American Medical Association asking for the establishment of a Section on General Practice. All were refused until the winter session of the House of Delegates in December of 1945. At that meeting a strong resolution from Michigan was introduced. It might be of interest to quote a few passages from that resolution. They read as follows:

"WHEREAS, Sixty-six and two thirds per cent of the doctors of the nation are general practitioners, and those practitioners constitute the bulk of the membership of the American Medical Association; and,

"WHEREAS, General Practice is an entity of and by itself within the profession just as much as the established specialty fields and is definite in its comprehension and limitless in its extension; and,

"WHEREAS, The organized specialty groups have set up certain restrictive rules and regulations concerning certain important portions of the field of general practice, which rules and regulations cannot be met and surmounted in the aggregate by the physicians who are making general practice their life's work; and,

"WHEREAS, The organized specialty groups have assumed the position generally of directing the affairs of the entire profession; and,

"WHEREAS, The public attitude is affected unfavorably by the standing inference that general practitioners are interfered with and supervised by the organized specialty groups;" and so on.

These are strong statements. Further quotation of the succeeding paragraphs of the body of the resolution would seem quite unnecessary, but we must not omit the closing paragraph which reads as follows:

"Therefore be it

"RESOLVED, That the House of Delegates of the American Medical Association take whatever action is proper at this time to create as soon as possible a new section of general practice to be constituted of equal rank and authority with other sections already established . . ." The resolution was adopted.

For two years now general medicine has had a voice in the affairs of organized medicine. The General Practice Section and the official representation of that section in the House of Delegates

places general medicine on an equal footing with all of the specialties. With these momentous events has come the renaissance of the general practitioner.

At the interim session of the American Medical Association held in Cleveland last January the general practitioner was referred to as "the Man of the Hour." According to one high official we are now the "shock troops" of medicine. At this meeting in Cleveland the scientific program was devoted entirely to the problems of general practice. It was an excellent meeting. One event was unique. For the first time in the history of the American Medical Association a gold medal was awarded to a general practitioner in recognition of his outstanding contribution in the field of general practice. The doctor so honored is Archer Chester Sudan of Kremmling, Colo., a village with a population of 567. It is ironical indeed that this award should go to one who served an area isolated from any type of medical or hospital care. Dr. Sudan served Kremmling twenty-one years in the general practice of medicine. His example makes a mockery of the argument that doctors cannot locate in small communities because of inadequate facilities. Where there is the will to serve a way will be found.

The freedom and security of future medicine must, in some way, have as their basis an adequate supply of well trained general practitioners. These practitioners must be well trained not only in the ability to recognize and treat organic diseases but also trained in the realm of psychosomatic medicine. They must be supported by well equipped laboratories and hospitals manned by specialists thoroughly trained to care for the more difficult cases. All must be imbued with the spirit of service and in the interest of that service certain reprehensible practices within the profession must be eradicated. Under date of March 6, 1948, the *Journal of the American Medical Association* has an editorial with the caption, "The Public Wants a Doctor When They Want Him." This is a full page editorial and deals with one unfortunate tendency within the profession. Time will not permit any quotation from this sobering editorial. It is humiliating to think that conditions have reached a stage that would prompt the publication of such an article. But other practices should be condemned. Fee-splitting, the charging of exorbitant fees, the growing tendency to make sickness and injury await the convenience of the eight hour day, the refusal to see patients on Sundays and holidays, the use of hospital beds by patients who do not need hospitalization but who demand it simply because they have hospital

insurance, and by reason of the added fact that it will be more convenient for the doctor to call on such patients; these abuses and many more must be corrected within the profession itself if we are to escape the wrath to come. As a profession we are not as lily white as some writers contend, and if we are to avoid the socialization of medicine, we must show the public that we can do our part by cleaning house. Our code of medical ethics must be dusted off and become again a living thing. These are hard facts, but their validity will not be denied by those who are forthright and unafraid.

As a contrast to this discordant note I should like to close by quoting from Robert Louis Stevenson's beautiful dedication to the doctor. It is interesting to remember that when Stevenson wrote this dedication, all doctors were general practitioners.

"There are men and groups of men that stand above the common herd; the soldier, the sailor and the shepherd not unfrequently; the artist rarely; rarelier still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only remembered to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practice an art, never to those who drive a trade; discretion tested by a hundred secrets; tact tried in a thousand embarrassments; and what are more important, Heracleian cheerfulness and courage. So it is he brings air and cheer into the sickroom, and often enough, though not as often as he wishes, brings healing."

FIRST-STAGE ETHER FOR BRIEF ANESTHESIA

A Method for the General Practitioner

Clarence L. Heald, M.D., Sigourney

For many years I have used first-stage ether for brief surgical procedures with entire satisfaction. Reduction of certain fractures, dislocations, such as those of the elbow and shoulder, and opening abscesses, such as ischiorectal, are a few of the conditions in which this transitory anesthesia is useful.

I have found it especially satisfactory in the reduction of Colle's fracture. Procaine injection into the blood pool at site of fracture has been uncertain in my hands and does not give relaxa-

tion. First-stage ether gives complete relaxation and one has ample time to make accurate reduction, checking with the fluoroscope, repeating the manipulation, if necessary, until reduction is satisfactory.

Nitrous oxide and intravenous pentothal are effective, but both require an expert anesthetist, a person not always available to the general practitioner.

Drs. Cassels and Teplinsky, professor of anesthesia in charge of the division and assistant professor of anesthesia, respectively, of the University of Illinois College of Medicine, Chicago, in a recent article in *Surgical Clinics of North America*, "Hazards of Anesthesia in Minor Surgery," warn of the danger of pentothal and of the importance of preliminary precautionary measures when this anesthetic is used, and of the danger of nitrous oxide, even in brief minor surgical procedures. To quote the above authors: "Pentothal anesthesia is far too commonly regarded as the method of choice in minor surgery. Laryngospasm is particularly apt to occur during pentothal anesthesia and has undoubtedly been responsible for many of the deaths attributed to this agent.

"Nitrous oxide is very commonly administered for minor surgical procedures. It must be used judiciously and one must remember that it is so lacking in potency that to produce even light surgical anesthesia may require such a high concentration of the gas that the oxygen content of the mixture is reduced to a dangerous level. After the respired atmosphere is depleted of oxygen serious anoxemia may develop, and even in the course of a few minutes may result in death or irreversible damage to the brain."

The dangers of chloroform and of ethyl chloride are too well known to merit their consideration here.

In my hands over a period of many years first-stage ether has never caused any untoward effects and has always been entirely dependable.

The anesthesia must not be carried beyond the first stage into the second stage, in which the period of excitement may appear, and later nausea and vomiting and delayed recovery.

Any doctor can administer first-stage ether anesthesia easily, safely and with satisfaction by following the simple technic outlined below.

An old-style closed oblong cone is made with a newspaper folded in a folded towel, large enough to cover mouth and nose, fastened together with safety pins. The cone is half filled with gauze. Ether is poured freely into the cone until the gauze is saturated. The cone is held over the nose

and mouth, allowing a half inch or so of air-space for the first minute or so, until the larynx and nasal reflexes are dulled, then the cone is held close against the face. The patient is reassured and is directed to breathe deeply and to hold his arm vertically.

After a minute or so the upraised arm slowly falls. When this occurs, the mask should be removed, the necessary procedure performed without delay, but without undue haste.

A few minutes after removing the cone, the patient awakens, with no excitement or vomiting, and walks out of the office unaided.

This method, with which many physicians seem unfamiliar, is recommended as being especially useful to the general practitioner for brief anesthesia, and to whom, for the moment, an expert anesthetist is not available.

College of Medicine
State University of Iowa
CLINICOPATHOLOGIC
CONFERENCE

June 8, 1948

Summary of Clinical Record

This 22 year old white farmer entered the University Hospitals Feb. 6, 1948. The onset of illness dated to mid-December, 1947. At that time, while visiting in rural Ohio, several members of the family, including the patient, became ill with sore throat, fever, and malaise. This was diagnosed as "flu" by the local physician. Due to continuation of these symptoms, an early return to Iowa was made.

During the subsequent five weeks there was a gradual progression of symptoms. The fever reached 102 F. with continued sore throat, headache, occasional chills, and increasing weakness and malaise. On Jan. 26, 1948, the stools became more frequent and were semi-solid to watery in character. These were said to have been inspected for blood, but none was noted. There developed chills with spikes of fever to 104-105 F. several times daily, accompanied by profound weakness and sweating. Treatment with sulfonamides and penicillin was started and continued without results. The vomiting of all solids had necessitated an intake exclusively of liquids since February 1. Epistaxis was noted for the first time on February 2 and occurred several times

up to the date of admission. On the morning of February 5, a large grossly bloody stool with clots was passed. The patient was admitted to this hospital without delay.

Before the onset of the present illness, the general health had been good. A left mastoidectomy had been performed when he was a child. There had been an episode of chest pain and slight hemoptysis several years previously with spontaneous recovery.

Examination showed a profoundly ill white male. The temperature was 104.2 F. rectally. The brachial blood pressure was 80/40-0. He was oriented and answered questions in a slow straightforward manner. The skin was hot and dry. Over the abdomen, chest and back were sparsely scattered macular pink and brown areas, 2 to 4 mm. in diameter, which blanched on pressure. A small shotty lymph node was felt in the left inguinal region. The sclerae appeared somewhat icteric. Crusted blood was noted in the nasal passages. The lips were dry, crusted with blood and showed lesions which were thought to be herpetic by one examiner. The pharynx was dry and diffusely inflamed. There was some resistance to anteflexion of the neck which produced no pain. The lungs were clear to auscultation and percussion. No cardiac enlargement was noted. The heart tones were of good quality and no murmurs were heard. The pulse was shallow and regular with 110 beats per minute. The abdomen appeared slightly distended and palpation gave a doughy resistance. The liver and spleen were not felt, but percussion in the splenic area revealed dullness up to the fourth rib laterally. Percussion over the remainder of the abdomen gave a tympanitic tone. No tenderness was elicited. Rectal examination demonstrated no masses or tenderness, but gross blood was present on the gloved finger. A 400 cc., grossly bloody stool was passed during the time of the physical examination. The tendon reflexes were equal but hypoactive throughout.

Laboratory examination included the following: hemoglobin was 9.5 gm. per 100 cc., leukocytes 2,000 per cu. mm., erythrocytes 3,510,000. The prothrombin time was 3'10", or 24.7 per cent of normal. The blood platelets were 104,000 per cu. mm. There was a retractile clot. Cultures of the urine, stools, and blood were sent to the bacteriology laboratory, and a growth was reported of "suggestive nonlactose fermenting organisms" from the blood and stool specimens. Blood for agglutinations was also drawn. A transfusion of 1,200 cc. of glucose blood mixture was given during the twelve hours after admis-

sion, in addition to an infusion of 800 cc. 0.9 per cent saline.

At 9 p. m. on February 6, the patient passed a large bloody stool, approximately 1,000 cc. in volume. A progress note at 10:15 p. m. reported the blood pressure as 115/60, with a pulse rate of 80 per min. At that time the abdomen was noted to be slightly distended, tympanitic, but nonrigid, and only minimal tenderness was elicited. The patient was taking water and milk by mouth in good quantities. Hourly blood pressure readings during the following five hours remained relatively constant. At 4 a. m. February 7 a 600 cc. bloody stool was passed. Following this there was noted increasing eructation but no abdominal pain. The fever had decreased following admission but continued to range between 101-102 F. per rectum. At 10 a. m. a progress note reported increasing abdominal distention and the

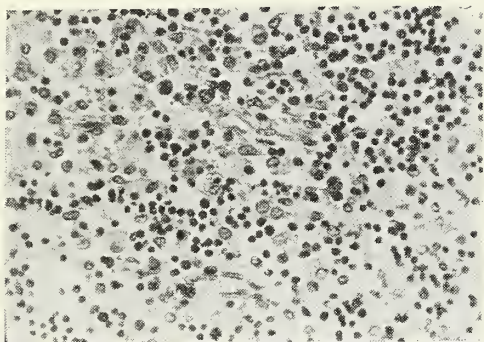


Fig. 1. Lymph node. Note cellular fragments in phagocytes.

patient began to complain of severe cramping pain. Tenderness was elicited in the lower left quadrant. The blood pressure was 80/50 and the pulse 100 per minute. There was passage of a large bloody stool and a gross hematuria was observed.

A blood transfusion, started at 10:30 a. m., had to be interrupted because of a shaking chill. The blood pressure dropped to 65/25 and the peripheral pulse became imperceptible. Oxygen was started intranasally, 40 mg. of vitamin K was given intravenously, and 250,000 units of streptomycin was given every three hours. At 11:45 a. m. a surgical consultant noted tinkling peristalsis throughout the abdomen, distension, and the absence of any muscle guard. The blood pressure was 42/20; there was no response to stimuli; bladder and bowel continence was present, and surgical operation was delayed. For the next 45 minutes blood was given intravenously until the pressure was 82/40. The patient went to the operating room at 2:35 p. m. Upon opening the peritoneal cavity, brownish fluid and fecal

material was seen. A perforation in the small bowel was found and closed.

Following operation, less cyanosis was noted and the patient responded to speech by moving his head in the direction of the speaker. The blood pressure was 60/40. Considerable nasal hemorrhage was noted. At 4:15 p. m. respirations suddenly ceased. The airway was believed to be adequate. Artificial respiration was performed and coramine 1.5 cc. and adrenalin, 2 cc. were given intravenously. The cyanosis increased and no further heart beat was heard.

Clinical Diagnosis

Typhoid fever with massive hemorrhage and intestinal perforation.

Necropsy Findings

The lymph nodes, spleen, and liver were enlarged. The liver weighed 3,200 gm. (normal 1,440 to 1,690 gm.) and the spleen weighed 1,200 gm. (normal 155 to 195 gm.). The liver had a yellow, mottled appearance and showed extreme congestion. There were foci of coagulation necrosis and, in addition, other foci which had the characteristics of chronic granuloma. Epithelioid cells and Langhans' giant cells were found in these lesions. There was also mild, diffuse fatty metamorphosis.

The spleen was intensely congested and the pulp was soft and reddish gray in color. The sinusoids were packed with erythrocytes and large mononuclear cells which showed evidence of very active phagocytosis. The Malpighian corpuscles were prominent.

The lymph nodes showed extensive reticuloendothelial hyperplasia and lymphoid hyperplasia. Most of the sinusoids were packed with large mononuclear phagocytes similar to those described above (fig. 1). Focal granulomatous lesions were found in spleen and lymph nodes also.

The intestinal tract was dilated and its mucosa congested throughout (fig. 2). The lymphoid follicles of the colon and the patches of Peyer in the ileum were very prominent (fig. 3). They were diffusely overgrown by large mononuclear phagocytes. Many of those in the ileum were ulcerated and perforation had occurred through the ileal wall in one location. The peritoneal cavity contained considerable bloody fluid in which feces, fibrin, and purulent exudate were present. The peritoneal surfaces were covered with fibrino-purulent exudate.

The heart was somewhat heavier than usual and showed some lesions which are not readily explained on the basis of *Eberthella typhosa* infection. It weighed 400 gm. (normal 270 to 360

gm.). There were focal areas of fibrosis in the myocardium which bore no particular relationship to vessels and showed none of the characteristic findings of Aschoff nodules. In addition, there were numbers of acute endocardial vegetations along the line of closure of the mitral valve. These were not more than a few millimeters in diameter or elevation and were made up of fibrotic granulation tissue surmounted by a layer of fibrin and mononuclear inflammatory cells. They resembled the vegetations of acute rheumatic fever rather closely but proof of their rheumatic character was lacking.

Cultures taken from blood, peritoneal fluid and gallbladder yielded *Eberthella typhosa*. Alpha hemolytic streptococci also was recovered from the blood. The postmortem blood urea nitrogen was 42 mg. per 100 cc. The creatinine level was 5.4 mg.

Necropsy Diagnosis

Typhoid fever, severe, with ulceration, hemorrhage, and perforation of ileum.

Peritonitis, acute, severe (*E. Typhosa*, *E. Coli*, and nonhemolytic streptococcus).

Recent operative closure of ileal perforation.

Focal chronic granulomatous inflammation with necrosis, spleen, liver, lung, lymph nodes, cause undetermined.

Verrucous endocarditis, mitral valve.

Scars of myocardium, cause undetermined.

Dr. E. J. Boyd (Pathology): This is a case of rather classical typhoid fever with two of the common complications, hemorrhage and perforation. The development of the lesions in the ileum are of interest in that contrary to what might be expected from the deep ulceration and the extensive necrosis relatively little scar tissue results, and the lesions regenerate so perfectly that one can't find them later. Lymphoid tissue becomes hyperplastic and fills in the defect, and mucosa with glands develop over the lymphoid tissue. The degree of regeneration in these ulcers is excellent.

Dr. R. C. Hardin (Internal Medicine): It would appear from the protocol that this case was one which followed the typical course. It is interesting that many cases of typhoid fever apparently start with a pharyngitis, and one wonders from the history whether or not this entire family may not have been suffering from the disease.

Classically, typhoid fever is divided into five, one week periods, the first of which is the week in which the fever begins to rise higher on successive days to reach 104-105 F. by the end of the week. During this time the patient may have

some diarrhea, but is more apt to have constipation. During the second week of the disease the patient has a high, rather sustained temperature with minor swings of a degree or two in each twenty-four hour period and a pulse which is slow in comparison to what might be expected with that degree of pyrexia. This patient's pulse was 110 when his temperature was 105 F. During the third week of the disease, the patient gets into the period where he may have complications, but if none develop, he has at this time diarrhea and a gradually subsiding fever. The fourth and fifth weeks of the disease are usually periods of convalescence. You can see then that this case followed the general pattern except that, perhaps, he was a little slow in the developing stage. It was about two and a half weeks before he reached the height of his fever, and the complications which ordinarily come on in the third and fourth weeks came on in the fifth and sixth.

The three complications that are most common in typhoid fever are thrombophlebitis, hemorrhage and intestinal perforation.

In trying to discover some figures on the subject, I learned that thrombophlebitis occurs in about 10 to 15 per cent of the cases. I might say that, although typhoid fever is relatively uncommon, even today we are still seeing many patients with an old thrombophlebitis whose disease can be attributed to typhoid fever twenty to twenty-five years previously. The second most common complication is intestinal hemorrhage which occurs in from 5 to 10 per cent of the cases and usually in the second or third week. The third complication is perforation which occurs in from 2 to 6 per cent of the cases and usually in the same period.

The treatment used in early days was essentially the same as the treatment used now. Supportive treatment is given throughout the febrile stage by a good diet and replacement of body fluids, by transfusion, if necessary, for hemorrhage. Hydrotherapy was used in the form of tub baths, but that has been replaced with the present treatment of sponge baths and wet packs. For the abdominal complications of perforation if the diagnosis can be established, and it is often difficult apparently, surgery is the only method of attack. Approximately 80 per cent of the people who have perforations die even though the perforation is closed. The diagnosis of perforation in typhoid fever is difficult because the signs of perforation can be present without perforation, and the perforation can be present without any signs. Sulfonamide drugs are apparently of no value, and penicillin has also been

disappointing. There are a few reports at the present time on streptomycin in the dosage of 1 to 4 gm. daily, by mouth and parenterally at the same time, which show some promise.

Dr. I. H. Borts (Hygiene and Preventive Medicine): This case, as mentioned before, represents typical typhoid fever which was overlooked, apparently, because of the rarity of this condition.

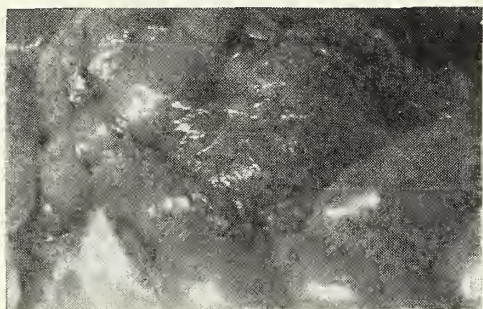


Fig. 2. Dilated loops of bowel—liver edge at left, penrose drain left center.

Many cases of typhoid fever are not typical in nature. That is commonly true among children and individuals beyond 45.

Typhoid fever at the present time is essentially a rural disease. In times past it involved large cities, and many of the outbreaks were traced to contamination of water supplies. With the adoption of public health measures and the safeguarding of water supplies and the improving of the general sanitary facilities in food handling establishments, etc., there has been considerable reduction in the incidence of typhoid fever. Water now rarely plays a part in this disease. According to data from the U. S. Public Health Service last year, there were eleven outbreaks of typhoid in which water might have played a part, but there was equally evident information to show that these also could have been food-borne in origin. All other outbreaks of typhoid reported have been of food origin due to carriers.

We recognize that about 2 per cent of individuals who have typhoid fever become chronic or permanent typhoid carriers. A much larger proportion of the cases become what we call convalescent carriers. We do not label an individual a chronic carrier until at least one year has elapsed after the onset of the primary illness. If the patient continues to excrete the typhoid organism in the stool for a period of longer than one year, he is labeled as a chronic carrier. With the reduction of the incidence of typhoid fever, there has been a great reduction in the incidence of typhoid carriers. Upon that basis, public health officials have been very much interested

in following every single case of typhoid fever. Wherever there is a typhoid case, there must be a typhoid carrier, and by checking and locating that typhoid carrier and instructing him what to do, that individual may be of no further difficulty to the community. Every typhoid carrier is asked to sign a pledge not to handle food for other persons' consumption and to use a sanitary toilet. When that is done that individual is not a menace to the community. Of course, if a sanitary toilet is not available, the outdoor toilet should be fly-tight and placed so that water does not run into it and flood it. The individual who uses this type of toilet should apply a coating of lime over the fecal deposit to destroy the typhoid organism.

We have in Iowa at the present time 71 typhoid carriers on our carrier list. During the past ten years the average incidence of typhoid fever in the state of Iowa has been 47 cases per year. Last year in Iowa there were 46 cases reported and for the entire United States 3,062 cases. That is quite a different figure compared with that of 1900. In the state of Iowa alone in 1900 there were approximately 18,000 cases. I think we have made great strides from the public health point-of-view in reducing the incidence of typhoid. Typhoid has very definitely been reduced by immunizations. The statistics from World War I are quite outstanding. Out of some 4,000,000 individuals in the entire United States army (this includes the navy and auxilliary troops), there were some 1,400 cases of typhoid reported, the greater share of which occurred in France among the troops who violated the regulations by swimming in the Seine River. The Seine River is considered one of the most heavily polluted streams in the world.

Immunization against typhoid will result in immunity against normal doses of typhoid organisms. It will not protect the individual against massive doses of organisms.

What about the diagnosis of typhoid fever from the laboratory point of view? I wish to emphasize that isolation of the organism leaves no question of the diagnosis. Other factors support the diagnosis but may be erroneously interpreted. We know that an individual who receives typhoid vaccine from one source or another, that is—for prophylactic purposes or therapeutic purposes such as an iritis or an arthritis—will develop agglutinins against the typhoid organisms. In such individuals the agglutination titer will rise and then in due time will eventually drop to normal. That agglutination titer will be nonspecifically stimulated by any nonassociated febrile illness such as pneumonia, influenza, etc. One must

be very cautious in interpreting the results of agglutinations in individuals who have had typhoid vaccine.

Of recent date the military have pointed out that the conduction of agglutination tests among military personnel is more or less a waste of time. Where there is a case of typhoid fever in question, the diagnosis should be based primarily upon blood culture studies and studies of the urine and feces because the agglutinin response may be of little or no help and may be more confusing than it is of help.

There is a certain type of pattern that we do see in typhoid and in vaccination which may be of help to us. In the average clinical case of typhoid there first is a rise of the O or somatic agglutinin followed by a lag in the H agglutinin. The patient at the second week of illness will have an O titer of 1:160 and an H of 1:40. A specimen of blood taken a week later will show an O titer of 1:640 or 1:280 and an H reaction of 1:80 or 1:160. That is the typical pattern. However, we do see cases of typhoid fever in which there is only an O agglutinin response and in others we see only an H agglutinin response. What we see usually in the individual who has received vaccine from one source or another is the reverse pattern. First there is a rise in the H or flagellar agglutinin followed by a rise in the somatic agglutinin. So those factors do help us. I just checked our record of last Friday on agglutination tests to see what we had. Out of ninety-two specimens we had thirty-one specimens showing typhoid agglutinin reactions, and I doubt if surveying the agglutinin reaction in general that any were of any clinical significance. They were probably results of vaccine. It has been estimated by the army that approximately 50 million of our population are immunized against typhoid fever, rendering the value of the agglutination test of much less significance. Stool and urine cultures are of much more importance.

Dr. Nathan Womack (Surgery): There are three phases of the typhoid problem I should like to mention as relating to surgery and to this case.

Number one has to do with the diagnosis of perforation of the intestine. A perforation in typhoid fever is a very difficult diagnosis to make, as Dr. Hardin has mentioned, and when it occurs, it is a most serious complication. The usual signs of peritonitis that one encounters with a perforated viscus to a certain extent are already present in these patients; that is, the abdomen is distended and diffusely tender with a doughy rigidity. The white blood count doesn't

peritoneal irritation. That peritoneal irritation had best be ascertained by rectal examination and not by abdominal examination. In a situation where a typhoid patient is admitted into a hospital it is essential, I think, that a surgeon see that patient at once in order to get an estimation of the amount of peritoneal tenderness that is present. He must make rounds on this patient every day and determine the amount of tenderness present. If in the course of that disease anything unusual happens, whether it is vomiting or a sudden spike of fever or pain, if it is associated with a marked increase in peritoneal tenderness, then that surgeon must be fairly certain help particularly because most of these patients have a profound leukopenia as did this patient, and it never changes. In my experience the one thing that is most important in making the diagnosis of a perforated viscus in typhoid fever is



Fig. 3. Ileum, mucosal surface below, serosal surface above; sutured perforation and ulcerated Peyer's patch.

he is not dealing with a perforation. Often he is.

The next point has to do with the treatment of perforation. Why is perforation in typhoid so much more dangerous than it is in peptic ulcer or gun shot wound or any other form of intestinal perforation? I think you see it in the story of this patient. Up until the turn of this century, the treatment of typhoid fever, as you will recall, was starvation. One of the first bits of fundamental work, which now, unfortunately, has been forgotten, came about some forty odd years ago by Coleman and Shaffer in which they reasoned that if a patient lay in bed with a temperature around 104-105 F. every day, there would be a tremendous need for food. They instituted a treatment of typhoid fever with a high protein diet, not worrying too much about the nature of the diet as long as it was high in protein. This has had a tremendous effect on the outcome of many patients with typhoid fever.

Such therapy has been used in other diseases in the past decade or so, and we now pay considerable

amount of attention to the protein intake on a patient with a high fever. It wasn't done on this fellow. We see him here in a state of acute nutritional deficiency with a spleen that probably contained more than a liter of blood above that of a normal spleen. That blood came out of his circulating system. You saw at autopsy an intestinal tract that was edematous and engorged and probably contained several liters of edema fluid and blood. This came from his circulating fluid. We are confronted then with a state of malnutrition upon which had been superimposed a tremendous amount of both blood and plasma loss from his circulating medium. He entered here in shock although up until his entrance he had lost only a moderate amount of blood—an amount of blood that you or I could lose with no difficulty whatsoever. Yet with him, placed in this very critical situation, the loss of 500 cc. of blood was catastrophic; and he, therefore, began to show evidence of circulatory failure. When he received his perforation, he immediately had a tremendous outpouring of plasma in his peritoneal cavity. This resulted in profound shock from which he never recovered.

I think it is expecting too much that merely the closing of the hole in the intestine will cure such a patient. His treatment is not a blood transfusion. His treatment is massive replacement of blood and plasma, literally quite a few liters of each a day to bring him back close to his normal physiologic status. That was not done and in this patient perhaps it would have been useless because he was in a condition of chronic anoxia, chronic shock with irreversible damage when he entered here.

Now a third point I want to make has to do with the carrier. I think it is one of the most interesting phases of this disease that there does develop a certain type individual who is able to carry typhoid bacillus parasitically in his body. He has no symptoms whatsoever. He discharges into the intestinal tract numerous bacteria so that he becomes a menace to society unless carefully guarded. Now where is the site in which this organism lives parasitically? From practical experience it seems to be most common in the gallbladder. I would like to stress just one factor in the handling of the carrier; namely, that many of them who have been carriers for years can be made bacteria free so far as the stool and urine are concerned if the gallbladder is removed. Whether this focus can be sterilized by streptomycin without resorting to surgery one cannot yet state. In one case in which we used streptomycin, the results were not satisfactory.

Dr. George C. Albright, Iowa City: Back in 1910, 1912, and 1913 I was sitting where some of these students are now looking for clues that might help me when I got out into medicine. I remember this one particular thing in regard to typhoid. I don't know whether it is still valid or not, but I do know that it helped me diagnose the only case of typhoid I ever saw while the patient was still in the first week of his illness. Dr. Howard of the early staff of this school said, "Gentlemen, if you have a patient with a temperature of 104 F. and a blood count of 5,000 or less, you must immediately suspect that he has typhoid."

Dr. E. L. DeGowin (Internal Medicine): I would like to ask Dr. Borts the incidence of brucellosis in the state of Iowa last year as compared with the incidence of typhoid fever.

Dr. Borts: There were reported to the Iowa State Department of Health last year 920 cases of brucellosis and 46 cases of typhoid.

Dr. DeGowin: I think that answers your question, Dr. Albright, about those diseases characterized by high fever and leukopenia. The situation has now changed.

Dr. Albright: It shouldn't be forgotten.

Dr. Russell Meyers (Neurosurgery): Is there an account offerable respective to the matter of epistaxis in typhoid fever?

Dr. Boyd: Not that I know of. There is, of course, a great tendency for collections of lymphoid tissue to become necrotic elsewhere the same as they do in the ileum, not so great, but they do occur. I presume that the source of epistaxis is these necrotic masses of lymphoid tissue in the nasal cavity. At least that seems the logical explanation.

SPECIAL ARTICLE

MEDICAL PARTNERSHIPS

Vern F. Nellis and J. H. Clissold, Waterloo

When a medical practice has grown beyond one doctor's capacity to handle, sometimes it appears advisable to obtain the services of an assistant. We have found, however, that before going into such an association, the doctor should consider whether improved office facilities, arrangement of time, an additional employee in the office, or better coordination between present em-

ployees and the doctor might make such a step unnecessary. Due to the number of partnership associations in the practice of medicine, it might be well to consider some of their advantages and disadvantages, as well as several preliminary steps necessary to their success.

Advantages and Disadvantages

The more obvious advantages of a partnership may be listed, as follows: (1) consultation and assistance in more difficult cases becomes more readily available; (2) each doctor in a partnership may enjoy more leisure time without neglecting his practice; (3) in time of sickness or the absence of one partner, there is less apt to be a serious drop in income; (4) in case of death of either partner, there can be an almost automatic sale of the practice. Some of the apparent disadvantages are: (1) a possible clash of personalities; (2) each partner is liable for the combined business obligations of the partnership; (3) the problems of liquidation in case of death of a partner; (4) the professional progress of one partner may be considerably in advance of the other.

Agreement

Perhaps the most vital insurance for the success of a partnership is an agreement deciding the major points of importance in that association. This legal instrument should be drawn up by a competent attorney who has the complete confidence of both partners, and should include the duration, ownership of assets, division of profits, liabilities of each partner, definition of expenses, liquidation in case of death of a partner, and the manner of settling disputes. In the case of a junior-senior partnership, it is advisable to include any rights the senior might wish to retain as to control of policy. Any other detail which the partners may wish to include is permissible, but in general the agreement should be clear and concise. It is well to remember that a partnership is successful not because every minute detail is covered in the contract, but because of the compatibility of the partners, their mutual confidence in each other, and their use of reasonable judgment in their business decisions.

Accounts

When a partnership is formed between two physicians, the question often arises as to what disposition to make of the patients' accounts still unpaid at the time of the formation of the partnership. These may be collected by the individual

partners, or collected by the partnership and applied on the proper doctor's old account. The advantage of the latter is that each partner is thus able to receive in full any money paid on one of his old accounts, without having any pressure brought toward collecting accounts contracted prior to the association, which might endanger the good will of the partnership.

Profit Distribution

The books of financial record should be set up by one thoroughly familiar with the technicalities of partnership accounting, and well versed in the problems peculiar to medical practice. It has been proved many times that good financial records are vital to any practice, and this is doubly true in partnerships. It is often advisable to have the computation and distribution of the earnings, as well as questions arising regarding costs, assets, liabilities, receipts and expenditures, handled by a competent third party. In order to provide for replacement of equipment, proper depreciation must be considered in determining the profits; otherwise the partnership will be dividing its assets with its profits.

Obviously many partnerships do not begin with equal distribution of profits. When a younger man, or a less experienced one, is taken into an established partnership, it is necessary to use a graduated percentage working toward an equal distribution in the future. It is preferred if at all possible to have the investment equal, regardless of the distribution of income, and in this way the bookkeeping is simplified.

Liquidation

In providing for the liquidation of a partnership in case of death or incompatibility of the partners, careful consideration should be given the rights of the creditors, and particularly the interests of the surviving partner and legatees. If there is a purchase agreement in which either partner agrees to buy the other's share in case of death and if a sale price is previously determined, the surviving partner may carry on the practice uninterrupted by a forced liquidation of accounts and sale of equipment.

Our experience has taught us that a partnership will operate smoothly if the means for settlement of the major problems which might arise are provided for prior to the beginning of the association; and if the business side of the partnership is planned and executed in a competent way.

STATE DEPARTMENT OF HEALTH



EARLY OUTBREAK OF POLIOMYELITIS

Between May 10 and June 14, 22 cases of poliomyelitis were reported from Harrison County, the greater number in the rural communities surrounding the town of Mondamin. During the same time 12 cases were reported from Pottawattamie County, 7 of which were from the city of Council Bluffs. During the same period and previous to May 10, 29 other cases were reported, making a total of 61 cases reported as of June 14, 1948.

This is an unusual number of reported cases for this early in the year when compared with 1947. Fourteen cases were reported as of June 7, 1947, with a total for the year of 176 cases while in 1946 there were 20 cases reported as of June 8, 1946, with a total for the year of 620 cases. The total cases reported for 1940 through 1947 are as follows:

1940—929 cases
1941— 40 cases
1942— 72 cases
1943—204 cases
1944—204 cases
1945—320 cases
1946—620 cases
1947—176 cases

Through the cooperation of the National Foundation for Infantile Paralysis, a prominent epidemiologist, Dr. Herbert A. Wenner, was assigned to assist the district public health engineer and public health nurse with other personnel from the State Department of Health, in promptly instituting measures of control and epidemiologic investigation. A further report will be submitted in the next number of the JOURNAL.

In connection with this recent outbreak of poliomyelitis, the following procedures were widely distributed through the area concerned.

Procedures to Be Followed During Poliomyelitis Epidemics*

1. *Recognition of the Disease.* Clinically the diagnosis falls into two categories: paralytic and nonparalytic poliomyelitis. In addition there is

a large and indefinite group of mildly ill patients often designated as suspected, or "abortive" cases. All of these forms may have the same initial symptoms, such as fever, acute headache, transient sore throat, gastro-intestinal symptoms, nausea and vomiting, and constipation. Clinical evidences of central nervous system involvement consist of stiffness of the neck and spine, irritability and hyperesthesia alternating with drowsiness, exaggeration of the muscular reflexes, and later, local diminution of reflexes and local motor weakness (paralysis). Any of these signs may be absent. Often there are two bouts of fever characterized by the initial symptoms and central nervous system signs in turn. Thus a suspected case often becomes a nonparalytic or a paralytic case.

In the definite paralytic and nonparalytic case, the spinal fluid usually reveals an increased number of cells and elevated protein. These are valuable diagnostic signs. Paralysis may be sudden and cause death within a few hours of onset by cessation of respiration without clear-cut symptoms. There is a marked tendency for the paralysis to improve after it has reached its height.

2. *Etiologic Agent.* A specific filterable virus.

3. *Source of Infection.* Virus has been recovered from bowel discharges or throat washings taken from:

A. Persons ill with, or recently convalescent from, clinically recognizable paralytic and nonparalytic poliomyelitis.

B. Persons, usually associated with cases of poliomyelitis, who had recently suffered illness not reaching the level of clinical identification.

C. Well persons associated with cases of poliomyelitis.

D. Other well persons residing in areas where virus activity is manifest by an unusual prevalence of the disease.

Virus has also been demonstrated (with difficulty) in tonsils removed at routine tonsillectomy from well persons in a nonepidemic area.

*Prepared by a group of experts, under direction of Dr. John R. Paul, M.D., of Yale University and released by the National Foundation for Infantile Paralysis, Inc., with adaptation to Iowa conditions.

In addition to these human sources virus has been recovered from pools of arthropods, largely consisting of flies trapped in "epidemic areas" and usually from places where such arthropods had easy access to human feces. Virus has also been recovered from sewage. The relative importance to man of these known sources of virus in nature is at present not established.

4. *Mode of Transmission.* Not definitely known. Circumstantial evidence is, however, more consistent with a hypothesis of transmission through human association than with any other theory yet proposed. Though the virus has been found in flies subject to fecal contamination there is no positive evidence of insects serving as vectors. A few small outbreaks have apparently been traceable to the ingestion of raw milk. Evidence of spread by water supply is lacking.

5. *Incubation Period.* Considered to be seven to fourteen days, but may be longer.

6. *Period of Communicability.* Not definitely known. In the few tests made prior to the onset of the disease, the virus has been found in oropharyngeal material five days before onset, and from stools nineteen days from onset. In the many tests made after onset, virus has been found in the oropharynx for about a week, and in stools up to one to two months.

7. *Susceptibility and Immunity.* Children are more frequently susceptible than adults, but even during epidemics only one person in several hundred suffers a clinical attack of the disease. Second attacks are rare, and might be due to different strains of virus. Older age group are being more frequently attacked in this country than previously.

8. *Prevalence.* Infection occurs practically throughout the world, but epidemics are most frequent in the cooler parts of the temperate zones, with the highest incidence in late summer and fall. In the United States an annual incidence of seven cases per 100,000 population is ordinary. Paralytic cases are more frequent in the temperate zones; the endemic disease may be more widespread in the tropics than statistics indicate.

9. *Methods of Control:*

A. The infected individual, contacts, and environment:

(1) Recognition of the disease and reporting: clinical symptoms assisted by microscopic and chemical examination of the spinal fluid if lumbar puncture is performed.

Cases should be reported under two diagnostic categories—paralytic and nonparalytic.

(2) *Isolation* (quarantine): Isolation procedures are to be maintained either within the hos-

pital (or at home) for a period of two weeks from onset of the acute disease.

(3) Concurrent disinfection: pharyngeal secretions and bowel discharges are infectious and should be disposed of as quickly and safely as possible. Containers and other contaminated articles should be sterilized.

(4) Terminal disinfection: none.

(5) Active immunization: none.

Passive immunization: not recommended.

(6) Investigation of source of infection: search for and employ expert diagnosis of sick children to locate unrecognized and unreported cases of the disease.

Regard open sewage or human feces as a possible source of infection for flies; obvious contamination of vegetables resulting from irrigation with human sewage to be avoided.

B. *General Measures During Epidemics.*

(1) General warning to physicians and the laity of the prevalence or increase of incidence of the disease. It is highly advisable for health officers to confer with local physicians early in the epidemic with regard to a plan for action, rather than a cause for panic with particular attention to:

a. Criteria for diagnosis and reporting paralytic and nonparalytic cases.

b. Criteria for hospitalization.

c. Organization for concerted action, and control of publicity.

(2) Importance of warning physicians that during epidemic times all cases of unexplained fever in children be regarded with extra care and treated cautiously with at least one week of bed rest.

(3) Protection of children so far as practicable against unnecessary contact with other persons, especially those outside their own homes, during epidemic prevalence of the disease.

(4) It is axiomatic that removal of human excrement from potential intimate contact with human populations is a desirable and essential public health objective on all scores and at all times. Emergency alterations in community collection and disposal of human excreta, however, are not believed to be practicable for controlling a current epidemic of poliomyelitis.

(5) To avoid contamination of food by flies is part of any public health program in which there is even a remote possibility that flies may act as vectors. Fly control is therefore recommended for cleanliness' sake but not with a view that any known fly abatement procedure will control an epidemic.

(6) Postponement of nose, throat and dental operations or any form of elective surgery in the presence of an epidemic.

(7) Avoid unnecessary travel and visiting during epidemic times, particularly by children either to or from the epidemic area. Closing of state borders as a quarantine measure is not recommended.

The following was distributed to lay individuals:

Precautions Against Poliomyelitis (Infantile Paralysis)

Infantile paralysis (poliomyelitis) is caused by a specific virus which has been recovered from bowel discharges or throat washings taken from persons ill with the disease or who have recently recovered; persons associated with cases who had recently suffered illness not reaching the level of clinical identification; well persons associated with cases; and other well persons living in areas where the disease is unusually prevalent. The mode of transmission is not definitely known but circumstantial evidence points to transmission by human association. In the light of present knowledge the following precautionary measures are recommended.

1. *Personal Cleanliness.* Hand-to-mouth transmission of the polio virus is possible particularly in children. Hands should be thoroughly washed before meals and after going to toilet.

2. *Insects.* Flies can carry the virus, particularly the green bottle and blow fly. Breeding places such as manure piles, hay and straw stack bottoms, weed piles and other decaying plant and animal materials should be removed from the premises. Garbage and refuse cans should be kept in covered cans, and dump grounds covered with earth. The virus has been isolated from fecal material and it is therefore advisable to prevent contact of flies with this material. Repair outdoor toilets or privies to keep the fly out. Fill and tamp earth around the outside of the building. Provide self closing seat covers and screen the pit vent. Close any cracks or openings in the floor or seat riser. Cover the pit contents with ordinary lime or borax.

Spraying of premises with insecticides will help to eliminate the fly. Apply a 2½ per cent solution of DDT (two pounds of 50 per cent wettable powder in five gallons of water) at a rate of one gallon per 1,000 square feet to the inside of outdoor toilets and buildings housing livestock. Spray garbage cans and the area around them every ten to fourteen days with a 5 per cent DDT solution. Window and door screens particularly on kitchens or where food is kept or prepared should be given

an application of 5 per cent DDT solution every two or three weeks.

Mosquitos have never been found to carry the polio virus. It is questionable, therefore, whether airplane spraying of mosquito breeding areas is advisable in the control of polio.

3. *Personal Contacts.* When a case of suspected polio occurs in the home keep all children at home and avoid visiting of other children to the home. It is advisable to defer removal of tonsils and adenoids at this time unless the attending physician believes it necessary.

4. *Food and Water.* Wash carefully all fresh fruits and vegetables before eating. Persons exposed to polio in the home should not handle food for public consumption. Boil (for at least two minutes) all water from wells on premises where cases of polio or intestinal disturbances (stomach flu, diarrhea, or vomiting) have occurred. Containers for samples of well water may be obtained from the State Hygienic Laboratory at Iowa City. Milk should be boiled or home pasteurized (heating to 140 F. for thirty minutes, or 160 F. for fifteen seconds) in homes where cases of the disease have occurred.

5. *Call your doctor* at once if mild symptoms are observed such as sore throat, headache, nausea, vomiting, diarrhea, and stiffening of the neck. Follow his instructions.

MORBIDITY REPORT

DISEASES	May '48	Apr. '48	May '47	Most Cases Reported From Counties Below:
Diphtheria	5	0	10	Woodbury (2), others scattered
Scarlet Fever	123	123	94	Polk, Story, Washington
Typhoid Fever	0	1	0	.....
Smallpox	0	0	1	.....
Measles	1,083	1,938	1,730	Black Hawk, Boone, Buchanan, Linn
Whooping Cough ..	52	38	106	Des Moines, Polk, Story, Worth
Brucellosis	7	9	31	Cedar (2), Lyon (2), others scattered
Chickenpox	420	465	392	Des Moines, Dubuque, Polk, Story
German Measles ...	1	5	17	Cerro Gordo
Influenza	5	1	71	Mitchell (5)
Malaria	0	1	2	.....
Meningitis Meng...	11	6	4	Linn (2), Scott (2), others scattered
Mumps	488	477	76	Dubuque, Johnson, Linn, Polk
Pneumonia	12	14	12	Black Hawk, Hancock, Polk
Poliomyelitis	18	6	4	Harrison (9), Woodbury (5), Jasper (1), Kossuth (1), Linn (1), Wapello (1)
*Tuberculosis	113	73	63	For the State
Gonorrhea	99	71	157	For the State
Syphilis	120	90	132	For the State

*Note: 38 cases of tuberculosis were reported for the first time by death certificate (January to May). This figure has not been included in any of our counts.

The JOURNAL of the Iowa State Medical Society

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Program for Rehabilitation

At the May meeting of the National Health Assembly held in Washington, D. C., the Committee on Physical Medicine and Rehabilitation under the chairmanship of Dr. Henry M. Kessler, suggested a ten point program for rehabilitation.

It was emphasized that:

1. Rehabilitation should be broadly conceived, that it should be available to the mentally and physically handicapped, and that it should not be confined solely to the restoration of persons to employment, but should be extended to include those who might achieve a more useful and purposeful life.

2. A program of federal assistance through grants-in-aid be extended to (a) assist universities and colleges to develop and strengthen opportunities for the professional training of rehabilitation personnel; (b) assist each state to take inventory of its existing rehabilitation, physical medicine and workshop facilities, to survey the need for the establishment of rehabilitation, physical medicine and workshop facilities, and to develop programs for the establishment of needed public and nonprofit facilities; (c) assist states to provide a broader financial basis for the establishment and maintenance of needed rehabilitation, physical medicine and workshop facilities; federal financial assistance should be available not only to establish new facilities when needed, but also to enlarge or expand those few that now exist; (d) assist universities, nonprofit research insti-

tutions, and governmental agencies to develop and encourage research in rehabilitation methods and technics and prosthetic devices as will contribute to the rehabilitation of all types of disabled persons; (e) assist each state to conduct a study to determine the size, nature and characteristics of its disabled population and determine those who need rehabilitation.

3. Education standards for training and employment of rehabilitation personnel should be those of the professional groups concerned and the appropriate accrediting agencies.

4. A general program of education and information be carried on to encourage young persons to select some one of the professions in the field of physical medicine and rehabilitation.

5. Each child receive adequate diagnosis, treatment and after care in accordance with his rehabilitation needs in order to insure him the opportunity for optimum development.

6. Public and private, national, state, and local organizations and agencies engaged in various aspects of rehabilitation, exchange information, coordinate activities, and work co-operatively to the end that the individual who is disabled may receive the kind and quantity of attention, care and training necessary to rehabilitate him to the limit of his capacity.

7. A program of public education and information including all media be developed to its fullest extent in order to educate workers and the general public with respect to what is being done and what should be done in the field of rehabilitation.

8. All hospitals provide services of physical medicine.

9. All medical schools include instruction in physical medicine.

10. The idea of isolated and fragmentary activity on behalf of the physically handicapped should be developed into a dynamic concept of integrated and continuous service.

More and more interest is being centered on the child health program in the United States. Certainly these recommendations by well known authorities on physical medicine will assist in the development of an efficient program in rehabilitation of children.

Medical Technologists Organize

The Iowa Society of Medical Technologists held its organization meeting in Des Moines May 23.

Requirement for membership is graduation as a registered technologist. The purpose of the

organization is to enroll all properly qualified technicians, improve themselves in their profession, and help in vocational guidance of high school students.

The next meeting of the Society will be held in September. In the meantime, the local group has been represented by a delegate to the meeting of the American Society of Medical Technologists in St. Paul. Officers of the Society are Inga Overland, Veterans Hospital, Des Moines, president; Rachael Hall, Fort Dodge, vice president; Eleanor Ambre, Broadlawns Hospital, Des Moines, secretary; Mae Chader, Iowa Methodist Hospital, Des Moines, treasurer; and Joan Holm, Oskaloosa, membership chairman.

The JOURNAL welcomes the formation of this group and extends the best wishes of all physicians for the fulfillment of the purposes of the organization.

Medullary Nailing in Fractures

Ever since the illustration of an intramedullary nail inserted by the Germans in the fractured femur of an allied prisoner of war appeared in Time magazine, a great amount of interest has been evidenced in this method of treatment in recent fractures, pseudarthrosis, and bone plastics. The originator of this method was Küntscher of Kiel, Germany, who in 1940 published his first results. This idea immediately intrigued physicians dealing with fracture treatment, and supply houses throughout this country now offer all types of medullary nails.

It is interesting to know that all orthopedic surgeons using this type of treatment have found complications not mentioned by the originator of the method. In several instances, the callus which forms at the site of fracture does not appear to be as healthy as one would anticipate from the x-ray appearance. Some surgeons have found that the Küntscher nail does not control a rotation deformity of the distal fragment. Another problem has been the angulation of the Küntscher nail at the site of fracture which made extraction a very difficult procedure.

Westerborn has reported 100 cases in the April, 1948 issue of the *Annals of Surgery*. Eighty-five of these cases had to do with fractures of long bones. Westerborn was very optimistic regarding this method of treatment. It is well to remember, however, that medullary nailing involves certain risks. In addition to those mentioned, the danger of bone marrow destruction, fat embolism and osteomyelitis must be borne in mind. Osteitis has developed in a few cases.

The most important condition necessary for osseous healing is absolutely firm fixation of the fragments, whether this is obtained with medullary nailing or other established types of fracture treatment.

Medical Aspects of an Atomic Disaster Plan

Since the advent of atomic energy, with the well known and much feared possibilities of its use for destructive as well as constructive purposes, much data have been amassed concerning the medical aspects of such a disaster. Concerning some phases, such as radiation sickness, little can be said because so little is known. For certain precautionary measures, however, provision can be made, and it has been recommended by Lt. Comdr. E. Richard King, speaking to the American Chemical Society in New York, that the public as well as physicians be familiar with them.

Primarily, an organizational plan for an atomic disaster should be set up with the full cooperation of the medical profession, military and civilian organizations. It has been estimated that in case of an attack on a large American city, a thousand doctors would be needed full time for weeks to adequately perform the necessary duties and treat all casualties. Most physicians in the explosion area would be incapacitated, as evidenced by the fact that in Hiroshima 260 of the city's 300 doctors were unable to assist in treating the wounded.

It is important that the populace be educated in certain aspects of the effects of an atomic blast. They must be warned against curious spectatorship, for the nearer one approaches to the center of the blast the more energetic and deadly is the radiation. The public must learn and accept that in such a calamity there would be areas that would contain such high levels of radiation that rescue work would be impossible. A thorough understanding of the effects of radiation (such as conditions of sterility, keloids, monstrosities and cancer) should be provided through more articles by qualified specialists in order to combat "atomic neurosis" suffered by many as a result of sensationalized and inadequate information.

Specifically, the training of medical and lay personnel in the effects of ionizing radiation and preparations for a possible atomic disaster are of immediate importance, as well as is the training of special technicians in both civilian and military organizations. The tissues most affected by ionizing radiation are bone marrow and other blood forming elements and the sex cells of the gonads.

In high doses the patient becomes ill within a few hours, vomits, suffers from diarrhea and goes into shock. Massive infection sets in and he will probably die within a few days. As the dose of acute radiation is decreased the survival time will be greater. Those who survive the first few days will suffer from a pancytopenia with hemorrhagic tendencies manifested. The leukopenia with its resultant lowered resistance will allow acute onsets of infectious processes of the mouth, skin and colon by those saprophytes normally present but that usually are held in check. If they survive the bleeding stage they will later demonstrate an anemia. Those who manage to pull through and who have received enough radiation to produce any of the above changes will also suffer damage to their sex cells, particularly the men. Such individuals will become sterile for varying lengths of time, depending on the amount of ionizing radiation received. Some who had lighter doses of radiation may not become sterile, but their sperms may be abnormal. They will not lose their libido or potency, however, unless they receive a large enough dose to invoke severe lassitude and malaise. Females like males will have their sex cells affected, but not as readily. Women who are pregnant and receive a moderate dose of radiation will likely undergo spontaneous abortion.

Provision should be made by each large city for the maintenance of channels of communication and transportation between devastated areas and relief stations. Each city and large military base should have a number of potential blood banks, fully equipped in its suburban areas or periphery. Likewise, dressing and decontamination stations should be established in the outlying areas of locations of a potential explosion.

Other problems present themselves, among them being the instigation of a program for (1) the decentralization of industry, government and military establishments with the dispersion of housing and hospital facilities some distance from these locations; (2) maintenance of a water supply not dependent upon lakes and rivers which are easily contaminated with radioactive materials; (3) establishment of storage sites for nonperishable foods and medicinal supplies with adequate protection from radiation yet within easy reach of the blood banks, dressing stations and decontamination centers; and (4) procurement of an adequate supply of special clothing for rescue workers and of specially adapted masks for all workers and possible exposed personnel.

Urban areas and military bases should practice organized drills in use of disaster equipment and

in evacuating a city or an exposed military base. These drills should employ the use of masks, detection instruments, protective clothing, and simulate rescue and contamination measures. Civilian personnel should have adequate background so that they may relieve the military in a large number of tasks if necessary.

Further investigations are needed in the problem of atomic defense, shielding of radiation protective clothing and treatment of radiation sickness. In the latter, the most active treatment known to date is supportive therapy. Whole blood transfusions, prophylactic antibiotics and very good nursing care are the most important. The diet should be as wholesome as possible under the circumstances—high caloric, high protein, high carbohydrate and low residue, the latter because of the damage to the lower intestine by radiation, and the syndrome of nausea, vomiting and diarrhea which has been observed. Fluids should be forced and given parenterally when necessary. The diet should be fortified by iron, liver, vitamin and amino acid therapy.

It behooves doctors to be well informed on and keep abreast of late developments in the medical aspects of atomic disaster plans. That the knowledge will not be necessary for such use is the hope of every individual, but no one can deny that it is well to be prepared—with the desire that the knowledge and skill may be used as a contribution to the scientific advancement of atomic energy for a population privileged to use it constructively.

TRENDS IN HOSPITAL CARE

Trends in hospital care statistics as presented by Hospital Service, Inc., of Iowa, from admission data for 1946-1947 show a changing picture. Length of stay for Blue Cross members is decreasing, but the total hospital bill is higher because average charges per day have increased.

On all cases paid by Blue Cross in 1946, average length of stay decreased from 8.10 days to 7.02 days and average per day charges rose from \$8.74 to \$9.83. For cases paid in 1947, the length of stay decreased from 7.02 days to 6.23 days by the end of 1947. For these same admissions the average per day charge went from \$9.26 to \$10.99. On all cases admitted the last six months, the average charge per day was \$11.84.

Admissions in proprietary hospitals paid in 1946 showed a decrease from 6.60 to 5.81 days in length of stay, while charges increased from an average of \$8.99 per day to \$9.96 per day. Cases paid in 1947 showed a further decrease in length of stay to 5.60 days. The average charge per day progressed steadily upward from \$7.92 to \$12.26 for admissions the last six months of the year.

(Continued on page 304)

NEWS NOTES

from the

Committee on Medical Service and Public Relations

VETERANS DIVISION OF IOWA MEDICAL SERVICE

The Veterans Division of Iowa Medical Service was established for the purpose of allowing veterans to be examined and treated, by physicians of their choice, in or near their home communities. All of the functions of Iowa Medical Service, with respect to the examining and treating of veterans, must be authorized by the Veterans Administration.

This Veterans Division has been in operation in the office of Iowa Medical Service since February, 1947. Since that date \$387,860.52 has been authorized by the Veterans Administration for payment to the medical profession in Iowa for professional services rendered. Of this \$387,860.52 allowed, \$241,753.13 has actually been paid to the profession as of May 31, 1948. There is, however, an additional \$32,099.87 in pending payment. This will bring the total amount received by the profession in Iowa by July 1, 1948, to about \$275,000. This figure represents over a quarter of a million dollars that has been paid to the doctors in Iowa since the Veterans Home Town Medical Care Program's inception.

There are 1,798 doctors in Iowa who have agreed to treat and examine veterans under this program.

Now a word about the procedure followed by Iowa Medical Service in making payments to the doctors.

When Iowa Medical Service receives a doctor's examination report or treatment record, his account is credited for the amount authorized by the Veterans Administration, and then when Iowa Medical Service receives its payment from the Veterans Administration, the payment is made to the doctor.

Iowa Medical Service functions only as an administrative agency for the Veterans Administration and is not qualified or empowered to release authorizations or adjudicative claims of veterans.

Questions have come from the profession about delayed payments for services rendered. This

condition is attributable to the fact that all pension examinations requested by the Veterans Administration must be submitted on each veteran as a unit. All of the examinations such as general physical, x-ray, orthopedic, psychiatric, etc., must be completed and in the individual veteran files before the case can be adjudicated and payment can be made to any physician who has given service to the veteran.

Physicians participating in this program should render treatments only within the period designated on the treatment authorization from the Veterans Administration. If treatment is given before or after dates authorized, payment cannot be made by Iowa Medical Service.

Since the origin of the Veterans Division 20,986 examinations and 24,642 treatments have been authorized. Doctors who are interested in becoming participants in the Veteran Home Town Medical Care Program should contact the director of Iowa Medical Service, Wilbur R. Quinn, 324 Liberty Building, Des Moines, Iowa.

TRENDS IN HOSPITAL CARE

(Continued from page 303)

In 1946 all cases admitted to Blue Cross member hospitals before June averaged 7.90 days in length but were reduced to 6.82 in the period ending December 31 that year. The average charges changed from \$8.76 to \$9.86. Cases paid in 1947 showed a reduction in the length of stay to 6.04 days for cases admitted July 1 to December 31.

Summarizing the data from these statistics of Hospital Service, Inc., of Iowa, for admissions during 1946 and 1947, proprietary hospitals have decreased the average length of stay as much as have Blue Cross member hospitals, but have increased the average charge per day more than Blue Cross member hospitals have.

It is also interesting to note that for all cases paid during 1947, the average length of stay in Des Moines hospitals was 6.78 days; in the Tri-Cities, 7.24 days; in cities under 10,000, 5.98 days. The average per day charge in Des Moines hospitals was \$12.85; in the Tri-Cities, \$11.44, and in cities under 10,000, highest of all, \$12.87.

From preliminary studies made this year, it appears the trend is constant.

TRANSACTIONS OF THE HOUSE OF DELEGATES

Iowa State Medical Society, Ninety-Seventh

Annual Session, April 18-21, 1948

Sunday Evening, April 18, 1948

The first session of the House of Delegates, held in connection with the ninety-seventh annual session of the Iowa State Medical Society, April 18-21, 1948, at the Hotel Fort Des Moines, Des Moines, convened at 8:10 p. m., James E. Reeder, Sioux City, president-elect, presiding as Speaker.

The Speaker: Will the meeting come to order, please? If any of you have not signed a registration card, will you please do so and be sure to notify the secretary of your presence because it is very important when it comes to voting.

Roll Call showed the following doctors present:

DELEGATES

Audubon—L. E. Jensen
 Black Hawk—E. L. Rohlf
 Black Hawk—E. E. Magee
 Boone—B. T. Whitaker
 Bremer—F. R. Sparks
 Buchanan—F. F. Agnew
 Buena Vista—H. E. Farnsworth
 Calhoun—D. C. Carver
 Cass—W. W. Kitson
 Cerro Gordo—C. O. Adams
 Cherokee—J. H. Wise
 Chickasaw—P. E. Gardner
 Clarke—C. R. Harken
 Clayton—F. E. Braucht
 Clinton—R. F. Luse
 Dallas-Guthrie—A. G. Felter
 Decatur—G. P. Reed
 Des Moines—F. G. Ober
 Dickinson—T. L. Ward
 Dubuque—D. C. Conzett
 Emmet—M. T. Morton
 Fayette—M. G. Beddoes
 Floyd—O. H. Banton
 Fremont—Kenneth Murchison
 Greene—G. W. Franklin
 Henry—J. S. Jackson
 Iowa—C. F. Watts
 Jackson—F. J. Swift
 Jefferson—L. D. James
 Johnson—S. C. Cullen
 Johnson—A. W. Bennett
 Keokuk—D. L. Grothaus
 Kossuth—J. N. Kenefick
 Lee—L. C. Pumphrey
 Linn—J. K. von Lackum
 Linn—C. H. Stark
 Lucas—Dean Curtis
 Madison—I. K. Sayre
 Marion—E. C. McClure
 Mitchell—R. L. Whitley
 Monona—E. C. Junger
 Monroe—T. A. Moran
 Montgomery—Oscar Alden
 Muscatine—C. P. Phillips
 O'Brien—W. R. Brock
 Page—C. H. Flynn
 Pocahontas—W. F. Brinkman
 Polk—J. B. Priestley
 Polk—D. N. Gibson
 Polk—M. I. Olsen

Polk—R. J. Porter
 Poweshiek—E. S. Korfmacher
 Ringgold—E. J. Watson
 Sac—L. B. Amick
 Scott—W. C. Goenne
 Scott—George Braunlich
 Story—J. E. McFarland
 Taylor—G. W. Rimel
 Van Buren—L. A. Coffin
 Wapello—C. A. Henry
 Warren—E. E. Shaw
 Webster—E. M. Kersten
 Woodbury—E. E. Morgan
 Woodbury—C. T. Maxwell
 Worth—S. S. Westly
 Wright—R. D. Bernard

ALTERNATES

Appanoose—E. A. Larsen
 Carroll—A. F. Smith
 Hamilton—Coburn Ellis
 Howard—P. A. Nierling
 Jasper—J. W. Billingsley
 Louisa—J. H. Chittum
 Plymouth—M. J. Joynt
 Polk—C. W. Losh
 Polk—Fred Sternagel
 Pottawattamie—R. M. Collins
 Union—Carl E. Sampson
 Washington—M. L. McCreedy
 Wayne—J. H. McCall
 Winneshiek—F. A. Hennessy

OFFICERS

President—H. A. Spilman
 President-elect—J. E. Reeder
 Secretary—J. C. Parsons
 Treasurer—J. A. Downing
 Trustee—J. I. Marker
 Trustee—W. A. Sternberg
 Trustee—L. R. Woodward
 Councilor—L. L. Carr
 Councilor—C. H. Cretzmeyer
 Councilor—J. B. Knipe
 Councilor—R. N. Larimer
 Councilor—E. F. Beeh
 Councilor—J. C. Hill
 Councilor—H. A. Housholder
 Councilor—C. A. Boice
 Councilor—W. S. Reiley

The Speaker: The Secretary will now read the minutes of the Friday morning session, 1947.

The Secretary: Mr. President, I move that the minutes of that meeting be approved as printed in the Journal.

[The motion was seconded, put to a vote and carried.]

The Speaker: We will now hear from our honored president, Dr. Harold Spilman. Dr. Spilman!

[President Spilman read his address and then assumed the chair while the president-elect, Dr. Reeder, read his address.]

[Dr. Reeder then resumed the chair as Speaker.]

The Secretary: Mr. President, I am not sure

everyone has signed an attendance card, but of those who have, three have not been certified to us as delegates. They are Dr. A. F. Smith of Carroll, Dr. H. C. Young of Davis, and Dr. Carl E. Sampson of Union.

Dr. Carl E. Sampson presented a letter certifying he was to serve as delegate; Dr. Young was not in the House; and Dr. Smith was seated upon vote of the House.

The Secretary: That gives us a total of 66 delegates, 14 alternates and 16 officers seated, or 96 in all.

The Speaker: We will now hear the report of the Secretary, Dr. Parsons.

The Secretary. Mr. President, for ease of handling I move the reports as printed in the handbook be received by the House of Delegates. They can then be approved or disapproved individually.

[The motion was seconded, put to a vote, and carried.]

The reports of the secretary, treasurer, board of trustees, delegates to the American Medical Association, and councilors were all approved as printed, without additions or corrections.

Reports of Officers

REPORT OF THE SECRETARY

House of Delegates, Iowa State Medical Society:

Herewith is the secretary's report for the year 1947:

Membership

The membership record of the different counties will be found in tabulated form on the following pages. We still have not regained the total membership we had prior to the war. The top then was 2,480. The membership this year is 2,377, a loss of four from last year. This isn't a great loss, but it does show that the medical population of the state is still less than desirable, and that not as many new physicians are locating here as might be hoped.

A breakdown of figures shows the following:

Active Members (Life Members Included).....	2,377
Eligible Non-members.....	159
Ineligible Non-members.....	61
Not in Practice or Retired.....	130

The active member classification included 179 life members and 39 for whom dues were waived.

One Hundred Per Cent Counties

Forty-eight counties had one hundred per cent membership records. This is ten less than in 1946, and the membership average dropped from 96 per cent to 93.7 per cent.

Counties on the honor roll are as follows:

Adair	Lucas
Adams	Lyon
Appanoose	Madison
Audubon	Mahaska
Boone	Marion
Bremer	Marshall
Buchanan	Montgomery
Butler	Muscatine
Grundy	O'Brien
Hamilton	Chickasaw
Hardin	Clarke
Ida	Davis
Kossuth	Des Moines
Lee	Dickinson
Louisa	Emmet

Floyd	Sioux
Greene	Tama
Osceola	Van Buren
Palo Alto	Washington
Pocahontas	Wayne
Polk	Winneshiek
Ringgold	Woodbury
Sac	Worth
Shelby	Wright

Number of One Hundred Per Cent Counties by Districts

First	4	Sixth	4
Second	4	Seventh	2
Third	8	Eighth	6
Fourth	4	Ninth	6
Fifth	4	Tenth	5
Eleventh	2		

Location of New Physicians

There is still a number of physicians looking for locations. Some are just being released from military service; others are finishing their internships and are looking for a place in which to practice. The office has made every effort to help with such inquiries.

There are many small communities still desirous of having a physician. These are listed with all applicants, but most of the young men prefer to settle in a community which is not too far from hospital facilities. The problem of office space and a place to live also militates against some communities. Those which provide office and residence find it easier to interest a doctor in settling there.

Committee Activities

The home town medical care program of the Veterans Administration went into operation in Iowa in February, 1947. The central office worked closely with the Veterans Administration in setting up the procedure, after studying forms and procedures in Minnesota. It also lent its assistance to Iowa Medical Service in the first months of operation and has kept in close touch with the many problems entailed in contracts, fees, etc.

The central office activated insofar as possible the

programs of the Committee on Medical Service and Public Relations, meeting with it frequently to consider the many facets of medical nature which are within the committee's province.

Financial Report

The by-laws place the responsibility for collection of funds upon the secretary. All income accruing to the Society goes through his hands, and he then transfers it to the treasurer for disbursement. This has been done for 1947 and the treasurer's report which follows will show receipts and expenditures for the year.

1947 MEMBERSHIP RECORD

COUNTY	1947 Membership	Eligible Non-Members	Ineligible Non-Members	Not in Practice or Retired	Percentage of Eligible Physicians Who Are Members
Adair	9				100
Adams	7				100
Allamakee	10	3			77
Appanoose	16			1	100
Audubon	7				100
Benton	19	1			95
Black Hawk	75	5		3	94
Boone	22		1		100
Bremer	17		1		100
Buchanan	16		3	1	100
Buena Vista	19	1			100
Butler	11				95
Calhoun	18	2			100
Carroll	21	1			96
Cass	15	2	1		88
Cedar	7	4			64
Cerro Gordo	54	1	2	2	98
Cherokee	13	6	1	2	68
Chicksaw	13	1			100
Clarke	5				100
Clay	12	1	1	1	92
Clayton	15	4		4	79
Clinton	48	4	3	1	92
Crawford	11	2	1	1	85
Dallas-Guthrie	33	2	1	1	94
Davis	14			1	100
Decatur	8	2		1	80
Delaware	9	4		2	69
Des Moines	35		2	3	100
Dickinson	8			1	100
Dubuque	68	9	1	1	88
Emmet	13				100
Fayette	20	7		5	74
Floyd	16		1	1	100
Franklin	10	1		1	90
Fremont	10	1			90
Greene	20		1	2	100
Grundy	11	2			85
Hamilton	16			2	100
Hancock-Winnebago	19	1		2	95
Hardin	17		1	4	100
Harrison	13	1	1	2	93
Henry	15	2	2	1	88
Howard	11	1			91
Humboldt	9	1			90
Ida	11			1	100
Iowa	12	2		2	86
Jackson	13	1		2	93
Jasper	19	6		1	76
Jefferson	15	2			88
Johnson	126	37		3	79
Jones	13	1			93
Keokuk	13	4			76
Kossuth	12		2	1	100
Lee	40		4	2	100
Linn	116	3	1	6	97
Louisa	5			2	100
Lucas	12			1	100
Lyon	7			1	100
Madison	7				100
Mahaska	22			1	100
Marion	22			21	100
Marshall	37			2	100
Mills	9	1		1	90
Mitchell	11	2		1	85
Monona	11	3		1	79
Monroe	12	1		1	92
Montgomery	18			1	100
Muscatine	21			4	100

COUNTY	1947 Membership	Eligible Non-Members	Ineligible Non-Members	Not in Practice or Retired	Percentage of Eligible Physicians Who Are Members
O'Brien	20			1	100
Osceola	8			1	100
Page	26	1	2	5	96
Palo Alto	15				100
Plymouth	13	5		1	72
Pocahontas	8		1	1	100
Polk	281		8	12	100
Pottawattamie	64	5	2	2	93
Poweshiek	18	1			95
Ringgold	4	1		1	100
Sac	13				100
Scott	93	3	3	4	95
Shelby	4			1	100
Sioux	16				100
Story	35	1	1		97
Tama	20			2	100
Taylor	6	1			86
Union	13	1			93
Van Buren	5		1	1	100
Wapello	41	3	2	2	93
Warren	9	1		1	90
Washington	23			1	100
Wayne	9			1	100
Webster	49	1	1		98
Winnebago	14			1	100
Woodbury	123		4	4	100
Worth	6				100
Wright	20			3	100
Total	2,377	159	61	130	93.7

John C. Parsons, Secretary

REPORT OF THE TREASURER

The report of the treasurer for the year 1947 follows herewith. It shows a net profit of \$7,581.42 in spite of a lesser income from dues than was expected.

The Society operates on a budget which is set up at the first of each year. The different departments are allocated funds deemed sufficient to carry on their work during the year; they may use such funds as necessary. Although the purpose of the budget is to set a ceiling on different expenditures, strict adherence has never been the custom should a committee need more funds for Society activities.

Figures for the year are as follows:

INCOME

Annual Session	\$ 5,255.85
Dues	32,330.10
Interest on Bonds	892.50
Interest on Savings	12.33
Journal	
Advertising	\$19,191.58
Reprints	1,685.73
Speakers Bureau Fees	581.50
Miscellaneous	164.40

TOTAL INCOME \$60,113.99

EXPENDITURES

Administrative Miscellaneous	\$ 1,659.73
Annual Session	3,453.60
Council	278.22
County Society Services	78.84
General Salaries	7,118.67

Journal

Salaries	\$ 3,636.00	
Printing and Engraving	15,091.39	
Reprints	1,898.29	20,625.68
Legislative Committee		4,500.00
Medicolegal Committee		957.05
Medical Service and Public Relations		6,846.85
Other Committees		867.30
Rent and Office Supplies		3,369.42
Speakers Bureau		
Salaries	\$1,793.20	
Travel Expense	794.29	2,587.49
Trustees		189.72
TOTAL EXPENDITURES		\$52,532.57
NET INCOME		\$ 7,581.42

Cash on hand at the first of the year in three bank accounts amounted to \$5,471.49. Bonds amounting to \$44,500.00 were held, making a total of \$49,971.49. Add to this the net income for 1947 of \$7,581.42, and the total funds on hand at the end of 1947 should be \$57,552.91.

Funds actually on hand at the end of 1947 were as follows:

Secretary's Account, Central		
National Bank	\$ 2,198.13	
Treasurer's Account,		
Bankers Trust Co.	4,766.14	
Savings Account,		
Bankers Trust Co.	1,088.64	\$ 8,052.91
Treasury Bonds		39,500.00
U. S. Savings Bonds (Maturity Value		
\$4,000)) Cost		3,000.00
U. S. Savings Bonds, Series G		7,000.00
TOTAL CASH AND BONDS		\$57,552.91

James A. Downing, Treasurer

REPORT OF THE BOARD OF TRUSTEES

The Board of Trustees held five meetings during the year with all members present each time. In addition, the president, president-elect, secretary, treasurer, editor, and several committee chairmen attended most of the meetings. Through this large and varied attendance, the officers kept in close touch with Society activities and the committee chairmen were given an insight into the manner in which the trustees function.

Several matters received thorough study by the trustees during the year. The editor and secretary sat with the board on two occasions as the publication committee, and at these meetings Journal problems and policies were considered and acted upon.

The site for the annual meeting for 1948 received a great deal of study. Although the hotel is not large enough to accommodate us easily, it has advantages not to be found in the Coliseum or the KRNT Radio Theater, the only other buildings large enough to be considered. Another organization hav-

ing taken the dates usually reserved for our meeting, a new plan of procedure had to be adopted and it will be given a trial in 1948.

The need for more office space has been becoming more acute and so an effort was made to get larger quarters. This could not be done at this time, however, and probably will be impossible until the state of Iowa builds its own office building. Consequently, at the secretary's suggestion, storage cupboards were built in the present office space and these have helped greatly by providing storage for the great bulk of the supplies, thus giving more working floor space.

The trustees approved the plan of holding an all-day meeting on Medical Service and Public Relations in October and authorized the chairman to provide transportation and luncheon to official delegates from each county.

And now for a look at the financial picture. Dues for 1947 were \$15 instead of \$10 as they have been for a number of years. The increase was asked so that a more active public relations program could be instituted. A start in this direction has been made and 1948 will show a much more positive report on that phase.

Income from dues was \$13,000 more in 1947 than in 1946; advertising showed a decrease of \$223.65; annual session had an increase of \$823.35; and Speakers Bureau and miscellaneous income were higher. Interest was lower.

Expenditures also increased in 1947, the Committee on Medical Service and Public Relations expending over \$6,000 more for its activities. Part of this was for the veterans' home town medical care program, and a look at that section of the committee's report will show the income to the doctors in the year which resulted from that move. Expenses as a whole were \$9,000 more than in 1946. Net income for the year amounted to \$7,581.42.

It is hard to estimate what 1948 will bring. Space at the annual meeting has sold more slowly than it did in 1947, but as this is written, most of it has been sold. Advertising has dropped somewhat and it seems only logical to expect less revenue from that source. Costs on printing, paper stock, and other supplies continue to rise. Travel expense is greater because of the increased cost of the factors entering into it—transportation, meals and hotel rooms. Society activities are increasing and it is hoped they are bringing more and more benefits to the members. Taking all of these things into consideration, the trustees recommend that the dues for 1949 be continued at the \$15 figure.

John I. Marker, Chairman
Lee R. Woodward
Walter A. Sternberg

REPORT OF THE CHAIRMAN OF THE COUNCIL

The Council has met but once during the year, then as a part of the Executive Council.

Clyde A. Boice, Chairman

REPORT OF THE FIRST COUNCILOR DISTRICT

The activities of the First District have been very much the same as in previous years. There has been great enthusiasm for construction of additional hospital facilities in our district. At least three counties are planning new hospitals as soon as material is available. Other hospitals are planning additions to increase the number of beds. The state hospital survey shows at least four counties greatly in need of more available beds.

We have lost several good physicians in this district by death, including among them one of our deputy councilors, Dr. William Bockoven, of Cresco. We have had several new doctors locate in our district which will be a great help in giving our patients adequate medical care.

Most of the counties have been holding regular county meetings or combining with adjoining counties to make their meeting of greater interest and to provide better scientific programs. Three counties in our district do not have sufficient doctors to keep up active county meetings. This is being remedied to some extent by inviting these doctors to other county meetings.

Much interest is being showed in the national health program and such steps as possible are being taken to combat this advance of state medicine.

There is great need in some counties of the First District for more homes for elderly persons, many of whom are not hospital cases; most of them need only ordinary home care with room and board.

The Iowa Medical Service plan is gaining in popularity especially as it pertains to the home treatment of veterans.

L. L. Carr, Councilor

REPORT OF THE SECOND COUNCILOR DISTRICT

The Second Councilor District seems to be back to normalcy medically, although only four of the nine deputy councilors have reported. There have been no projects of any note throughout the district. I wish to take this opportunity to thank my deputy councilors for their splendid cooperation.

C. H. Cretzmeyer, Councilor

Butler County—No projects were carried out during the year 1947. Monthly meetings were held, the Woman's Auxiliary meeting at the same time and place. A dinner was served at each meeting and then the groups separated into their own meetings. Butler county had a good year.

Bruce Ensley, Deputy Councilor

Humboldt County—Humboldt county is glad to report 100 per cent membership for 1948. The society is planning to have a topic assigned for general discussion at each meeting during the year, each member to discuss informally his own ideas or what he has learned from recent reading on the subject.

I. T. Schultz, Deputy Councilor

Kossuth County—Meetings of our county society this past year have been concerned for the most part with discussions of the service furnished by the Kossuth Hospital management. The service has been

very unsatisfactory both for the patient and the doctor. We lacked graduate nurses most of the time and the x-ray work has been below par, costing too much and being inferior to that of other laboratories. We are all looking forward to our new modern hospital with up-to-date equipment. Its realization has required a great deal of work both from the doctors and the citizens' committee. Both have given freely of their time. Especial credit should be given to both Dr. Cretzmeyer and Dr. Bourne.

J. G. Clapsaddle, Deputy Councilor

Worth County—The Worth County Medical Society has maintained its organization with 100 per cent paid-up membership for the past year. There have been no deaths and no additions to our membership. Meetings have been of business and social nature only. Scientific meetings in neighboring counties and districts have been attended by many of our members. The Cerro Gordo County Medical Society has been especially friendly and generous in inviting us to its meetings, for which we extend our sincere thanks. Iowa Medical Service made a token start at organizing here, but little has been accomplished as yet. The Woman's Auxiliary has a healthy and active organization in the county of which all eligible women are members.

S. S. Westly, Deputy Councilor

Wright County—All eligible physicians in Wright county are members of the county medical society, giving us a membership of 100 per cent. One physician moved away and two new physicians located in the county.

Immunization programs against contagious diseases were carried out again in 1947 with the active cooperation of the school nurses, superintendents of schools, both county and local, parents and teachers. Only a few cases of chickenpox and mumps were reported, and practically no other contagious diseases. A tuberculosis control program has been continued and several films made throughout the county. This is sponsored by the Wright County Medical Society in cooperation with the Iowa Tuberculosis Association, and the county chairman, Mrs. Lynn Thompson of Clarion, deserves credit for her effective leadership.

The American Cancer Society has gone a long way in disseminating knowledge of cancer, one of the most dreaded diseases. Organization of a Wright county chapter under the sponsorship of the county medical society was accomplished at Clarion in October. Fifty-five persons attended the first meetings, where several speakers discussed various phases of cancer. Since then meetings have been held at Rowan, Clarion, Goldfield, Dows, Belmond and Eagle Grove. Mrs. Thompson is also chairman of the cancer chapter and is doing an excellent piece of work.

J. H. Sams, Deputy Councilor

REPORT OF THE THIRD COUNCILOR DISTRICT

From the standpoint of organized medicine, things in the Third District seem to be running very smoothly. Every county society has had one or more meetings during the year; some have held regular monthly meetings with scientific programs. Practically all have had immunization, cancer and tuberculosis programs.

The annual summer meeting of the Upper Des Moines Medical Society was held as usual at Lake Okoboji and the winter meeting at Emmetsburg in February. Both were largely attended by physicians from northern Iowa and southern Minnesota. Excellent programs were enjoyed.

While most of the counties are supplied with medical service, there are several sizeable towns without a doctor of medicine. Most of the new men locating since the war have decided to settle in the larger county seat towns, and this has left the field in the smaller communities wide open to the osteopathic physicians. I know of no way to remedy the situation until more men are graduated from our medical schools.

There have been very few deaths among the medical men of this district this year, but many of the older men are retiring from practice to enjoy a well earned rest from their strenuous labors during the war period.

J. B. Knipe, Councilor

REPORT OF THE FOURTH COUNCILOR DISTRICT

The activities in the Fourth District have, in 1947, largely assumed their pre-war status. County medical societies have been reasonably active, hospital building programs have become of increasing importance, and sufficient young men have returned to or located in the district so that medical service is being maintained on a high and sound plane. Without exception, the feeling among the doctors has been good.

It is worthwhile emphasizing some of the points in the deputy councilors' letters; several mentioned the slowness of expansion of Iowa Medical Service in northwestern Iowa, and they feel that perhaps some new method of promotion should be used.

Two of the deputy councilors' letters are illuminating so far as evidence of what the members of the county societies are thinking, and since I feel that they constitute a direct challenge to the officers of the state society, two paragraphs are quoted verbatim.

"The threat of state or socialized medicine has been an important topic of discussion at every meeting. It is our firm opinion that it is time we recognize the threat that faces us, and prepare on a local as well as statewide basis to combat this menace to good practice of medicine. As physicians, we must be able to show the people the difference between careful private medicine, and socialized, either federal or state, controlled medicine."

"It is my duty to express to you the opinion of the county society relative to the power that the federal health agencies are extending over our State Board of Health. This especially is in reference to hospital licensing, physician licensing, nursing education and federally financed health centers. It is our feeling that as long as our State Department of Health is thus being conducted, the above mentioned activities should be taken from the State Department and given to some other agency for control until it is no longer apparent that the State Board is being dictated to, and financed by, a federal bureaucracy. This problem has been discussed long and thoroughly by our society members. Therefore, we feel it advisable to bring it before the state society."

R. N. Larimer, Councilor

REPORT OF THE FIFTH COUNCILOR DISTRICT

It is gratifying to know that all of the county societies have had meetings with some type of a professional program. This year, at Fort Dodge, we had an excellent postgraduate course arranged by the Speakers Bureau. The lectures were well attended and enthusiastically accepted.

There have been a number of cancer meetings throughout the district. In addition, most of the counties have continued with their immunization and vaccination programs.

E. F. Beeh, Councilor

REPORT OF THE SIXTH COUNCILOR DISTRICT

The Sixth District medical societies are on the march in carrying out the plans that the state and county organizations have fostered. Most of the counties have monthly and bimonthly meetings. The larger cities of the district support monthly meetings with excellent clinicians furnishing very instructive programs. The counties of the district, this year, have not taken on postgraduate courses as outlined by the Speakers Bureau. One of the smaller counties is taking on four clinical meetings for the coming year.

The indigents in the district are routinely served well. In the larger cities school immunizations are done every year or two; in smaller areas about every two years. Examinations of 4-H Youth are made yearly. The medical care of the veterans in our district has depended upon the requests made of the veterans and of their organizations. We regret that the Iowa Medical Service is not meeting with as favorable a response as it deserves. We physicians should get behind this plan for prepayment of medical care. It is our own organization, is controlled by us and is infinitely better than state controlled medical care.

Blue Cross hospital insurance is going over in a large way throughout our district—in fact it is very popular. The cancer educational work, especially where it has been well explained to the laity by

competent speakers, furnishes a medium for dissemination of dependable information on this very live subject of cancer. More power to this educational movement.

The doctors in our district are extremely busy as they are throughout the state. True as this is, let us remind ourselves that medicine in these passing years brings new horizons of achievement into view. May our profession ever be alert in the progress of our time.

James C. Hill, Councilor

REPORT OF THE EIGHTH COUNCILOR DISTRICT

Des Moines County—The Des Moines County Medical Society held eight regular meetings during the past year with excellent speakers from different cities covering a wide range of subjects. In addition, the first meeting of the year was devoted to medical economics and the program was presented by local doctors. In October the society was host to members of the Mississippi Valley Medical Association.

We have two new physicians located in the county, one specializing in anesthesiology, the other in general practice. One of our former members who is now on the staff of Northwestern University and chief pathologist at Passavant Hospital returns every two weeks to conduct a clinical conference for the local society.

With the cooperation of the local health department the society sponsored its annual immunization clinic. Each year has brought a larger number to benefit from such immunization.

Frank G. Ober, Deputy Councilor

Henry County—During the last year Henry county has held regular meetings the last Friday of every month. They have been of mixed nature, with some very interesting programs by our own as well as outside physicians. We have two new members, but unfortunately we lost two older physicians by death.

The society has had an enthusiastic and fruitful year.

J. Stewart Jackson, Deputy Councilor

Jefferson County—Our society holds meetings bi-monthly and has a very good attendance. We attribute this to several things, among them the fact that we gather for a six o'clock dinner which makes for good attendance and fellowship. We have a good sound projector and this enables us to show movies at all meetings. We have found these excellent teaching media.

Our tuberculosis chapter is very active. A case-finding program was carried out in 1947 and although not all of the industrial workers appeared for their scheduled x-rays, on the whole the interest was good. The cancer program is receiving excellent support both from the medical men and the laity.

We gained one new member during the year and lost one by death.

Ira Nelson Crow, Deputy Councilor

Lee County—Lee County Medical Society held four quarterly meetings in 1947. They were well attended and the programs were excellent. We lost one physician by death during the year, and two have left temporarily to obtain further training. One doctor moved into Fort Madison from the county, and another into Keokuk.

R. L. Feightner, Deputy Councilor

Louisa County—We had 100 per cent membership in 1947, all five of our eligible members being in good standing. Average number attending meetings was four. One member, Dr. Chittum, achieved the fifty years of practice goal and was awarded recognition at a meeting in May.

J. H. Chittum, Deputy Councilor

Muscatine County—Activities in our county have been fairly light. Chiefly they have revolved around an expressed desire of the two hospitals to combine in their activities to promote a new comprehensive county hospital. The Chamber of Commerce and board of supervisors have endorsed the project, and the county society has held several meetings with them in furthering this cause.

We held one clinic, sponsored by the College of Medicine, in orthopedics and pediatrics, and aided in a tuberculosis miniature film screening of high school students and private cases referred by physicians.

We lost three physicians through death and one by removal. Fortunately, some new physicians have located in the county and most of those who were in military service have returned.

C. P. Phillips, Deputy Councilor

Scott County—The Scott County Medical Society has kept up its activities as reported before the war. We are settling down to a normal routine, with meetings held the first Tuesday of every month except July and August. We have 90 members of the society, of whom 43 are specialists. Most of these specialists have returned from service and brought with them a great deal of medical knowledge. The tendency in planning programs, as a result, has been to use more local and less foreign talent.

We lost three physicians by death in 1947, but gained two.

Among our activities is the establishment of a heart clinic similar to the children's diseases and tuberculosis clinics already being held at the Visiting Nurses' center and purchase of a Victor sound projector. The latter has proved an excellent investment. At every meeting a film of some educational value, surgical or otherwise, is shown, and much interest and enjoyment have resulted.

The plan for handling the indigent cases is functioning very well. We always use our quota of beds at the University Hospitals, and our society is in perfect accord with the hospital on the present arrangement.

The social part of society organization is maintained voluntarily when groups of physicians entertain members and their wives from time to time.

A. P. Donohoe, Deputy Councilor

Van Buren County—Our society had very few activities during the past year. We had only one meeting, the annual meeting for election of officers at which three members were present. We lost one physician by death but three new physicians have located in the county. We hope they will become active members.

L. A. Coffin, Deputy Councilor

Washington County—The Washington County Medical Society held five scientific meetings during the year, presented by speakers both from outside the county and within. One physician moved from the county, and one new man located at Kalona.

E. D. Miller, Deputy Councilor

REPORT OF THE NINTH COUNCILOR DISTRICT

Most of the physicians who were in service from the Ninth District have returned; however, we have several counties which are not back to prewar status. Younger physicians seem reluctant to locate in smaller towns.

Membership in the counties is good. Several have held monthly meetings, and it is my impression that membership and activities in 1948 will surpass those of 1947.

Following are the reports submitted by the deputy councilors.

R. C. Gutch, Councilor

Davis County—The Davis County Medical Society assisted in the tuberculosis testing program in the public schools of Bloomfield and in the examination of 4-H Club boys and girls. Members of the county attended the cancer institute at Ottumwa on November 9, and also attended as a group a special program of the Appanoose county society presented by Dr. Alcock. Local meetings drew only a fair attendance.

G. W. Gilfillan, Deputy Councilor

Keokuk County—The Keokuk County Medical Society held no meetings in 1947.

Dell L. Grothaus, Deputy Councilor

Lucas County—The society meetings are held the second Tuesday of each month at Hotel Charitone. Twelve such meetings were held in 1947 and topics of interest were discussed. Last May a countywide tuberculosis testing program, open to every citizen of the county, was carried out. Testing stations were set up with the aid of the county superintendent of schools. Gratifying results were obtained and we appreciate the work of the county tuberculosis society in organizing the program.

During the summer Dr. Fred Sternagel explained the Iowa Medical Service plan to us, making it understandable. The county society joined Blue Cross as a unit in the fall. We have 100 per cent membership in the State Society.

S. L. Throckmorton, Deputy Councilor

Marion County—The physicians of Marion and adjoining counties were invited to attend a meeting at the Veterans' Hospital early in October. This meeting proved to be very interesting and instruc-

tive. This was the only meeting until December when the annual meeting was held. At this officers were elected and a discussion of the proper procedure for handling indigent cases was conducted.

H. L. Bridgeman, Deputy Councilor

Wapello County—Medical activities in Wapello County during the past year have been numerous and varied. More than 40,000 persons were successfully immunized (services free) following a series of disastrous floods that swept through the Des Moines Valley. The cancer institute, successfully held at Ottumwa, was sponsored by our society, the Speakers Bureau and the Cancer Division of the State Department of Health. Our constitution and by-laws were amended to provide for monthly instead of semi-monthly meetings (in vogue for more than half a century) at which free dinners are served to all invited guests. Annual election of officers was changed from December to the last meeting in April, thus affording the president-elect time to help plan and familiarize himself with the scientific program. Officers so elected will be seated in September.

In view of the threatening attitude of Congress concerning social medicine, our society strongly favors the activities of the AAPS.

C. A. Henry, Deputy Councilor

Wayne County—There have been ten meetings of the Wayne County Medical Society during the past year with 80 per cent attendance. Programs consisting of papers or motion pictures were presented.

J. H. McCall, Deputy Councilor

REPORT OF THE TENTH COUNCILOR DISTRICT

A survey of the reported activities of the counties comprising the Tenth District for the past year shows a definite low point. This cannot be regarded as a lack of interest but rather the result of extremely low membership in several counties. While the societies with larger memberships have done very well in meetings, etc., two of the counties in the district have but three practicing physicians, which is not conducive to organized county meetings.

There is much encouragement in the promise of at least five new hospitals in the district in the near future and in the prospective location of more physicians in the district. A postgraduate course of five meetings arranged by the Speakers Bureau has been very well accepted by most of the district membership.

James G. Macrae, Councilor

REPORT OF THE ELEVENTH COUNCILOR DISTRICT

The county societies of our district have been activated and are going along nearly normal again. The members are all interested in the cancer and heart programs and will do all possible to help them along. We all realize this necessary work.

W. S. Reiley, Councilor

REPORT OF DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

The report of the Atlantic City session of the American Medical Association was published in the August, 1947, issue of the Journal of the Iowa State Medical Society; the report of the interim Cleveland

session in the February, 1948, issue. Your delegates respectfully refer you to these issues of the Journal for a complete report of the meetings of the House of Delegates of the American Medical Association.

Thomas F. Thornton
George Braunlich
Gerald V. Caughlan

Reports of Standing Committees**REPORT OF THE COMMITTEE ON CONSTITUTION AND BY-LAWS**

A motion was presented to the House of Delegates last year which provided for an amendment to the Constitution. This necessarily had to lay over for a year and be published in the Journal, so that now it will be eligible for action by the House of Delegates at the 1948 meeting. The amendment reads as follows:

"Article V, Section 1. The House of Delegates shall be the legislative and business body of the Society, and shall consist of delegates elected by the component county societies. They shall have the sole voting power at meetings, except that the President shall cast the deciding vote in the event of a tie vote."

John H. Henkin, Chairman

REPORT OF THE LEGISLATIVE COMMITTEE

This report will give a brief resumé of legislation achieved at the last session of the Legislature and mention briefly what is being done now in preparation for the next session.

County Boards of Health. This establishes a county board of health consisting of the county auditor, chairman of the board of supervisors and the county superintendent of schools. The act also permits township trustees to organize as a local board of health if they so desire. This leaves the "local government" feature in the act, although there probably will not be many, if any, township boards. The net effect of the act will be to set up a county health officer who will be responsible in cases of epidemic in rural areas where city health officers have no jurisdiction, to whom the doctors may turn for help in quarantining and combatting epidemics in such rural areas. Under the old system of township boards of health, which usually did not organize, too often there was no health officer who could take the responsibility for enforcing quarantine measures and the like.

Hospital Enabling Act. This bill provides for a survey of hospital facilities in the state by a hospital advisory council, and makes federal funds available for hospital construction. The hospital advisory council consists of four representatives from the Iowa Hospital Association, one from the Iowa Osteopathic Hospital Association, three from professions interested in health, and four lay persons with a good background in health matters. The federal funds made available by this law will give consider-

able assistance to counties and districts needing additional hospital facilities. The survey has now been completed and the program approved by the authorities in Washington, so that some actual work should be undertaken in 1948 in the communities listed as being in the greatest need of hospitals.

Hospital Licensing Act. This act provides for licensing and regulation of hospitals. The five hospital representatives on the advisory council of the survey act constitute the licensing board. The act is necessary to conform with federal requirements for aid for hospital construction under the enabling act.

Licensing and Regulation of Nursing Homes. This act is somewhat in conflict with the hospital licensing act in that the hospital act appears to be broad enough to include nursing homes also, but this can be corrected in the next legislature. Already the law seems to have accomplished improvements in the management of nursing homes.

The Tuberculosis Bill. This provides free hospitalization for persons in the contagious stages of tuberculosis when the cost of hospitalization will affect the economic security of such patients. The patient must agree to remain hospitalized until released by the superintendent as noninfectious. It eliminates the old bugaboo of tuberculous patients that they will lose their property through long hospitalization and should make it easier for doctors to insist on hospitalization from such patients.

Workmen's Compensation Bill. This provides for an increase from \$600 to \$800 for medical care, and excludes nursing care from this limitation, paying for it in full. This makes the maximum allowance of \$800 more adequate for the hospital and medical bills.

Hospital-School for Handicapped Children. This act appropriates \$500,000 for construction of a hospital-school for handicapped children at Iowa City and \$59,000 a year for operating expense.

Mental Health Authority. The bill to provide for a mental health authority did not pass the legislature, but the Board of Control has instituted a similar program and the net result is about what the bill proposed.

Nurses' Licensing Act. The bill to license practical nurses did not pass, due to the divergence of opinion on its merits. At the present time the Iowa State Nurses' Association is undertaking a survey of the state to determine the number of practical nurses and how active they are, and the result of the survey will probably be a determining factor in

legislation sought at the next session of the legislature. The American Medical Association through its Nurses Advisory Committee recommended training more applicants for bedside nursing, which would probably require a shorter training period; further training for supervisors and more technical aspects of nursing; and a continued committee of fifteen to study the problem, five from each of the following: American Hospital Association; American Medical Association and American Nursing Association.

The foregoing provides you with a report of what was accomplished at the last legislature, and mentions the nursing problem which will probably be one of the bills introduced in the next session.

John W. Billingsley, Chairman

REPORT OF THE COMMITTEE ON MEDICAL SERVICE AND PUBLIC RELATIONS

It is for us to preserve our heritage of respect, service and progress today when unguided public demands and associated political intrigue threaten to strangle the incentive and opportunity to practice good medicine.

Public opinion will ultimately decide the issue and for this reason every physician, no matter where he lives, must contribute his part toward assuring the people of his community that American medicine as a free enterprise can provide more and better medical care at a lower cost than any of the so-called socialized schemes. By the same token physicians must collectively demonstrate their ability to supply such other reasonable services as will attend social adjustments and changing times.

The most this committee can hope to accomplish toward this end is to propose and facilitate the operation of procedures which we believe should be put into operation at this time. The individual physician must carry out these plans or at least show a spirit of cooperation and interest in their execution. Success or failure of our efforts to cope with the present situation depends entirely on the individual doctor's willingness and ability to execute these proposals even if they may not be to his individual liking or convenience. Without this help we must be prepared to face whatever medical practice restrictions a belligerent and determined public is disposed to force upon us whether we like it or not.

Ominous signs of selfishness, suspicion and indifference among many of our members threaten to ruin the whole program—selfishness and suspicion spawned in a period of materialistic ambitions and indifference cradled by a false sense of security.

There is a feeling among many responsible members of our society that much pertinent information concerning the objectives and purposes of this committee is not reaching enough of our members. Likewise, adequate suggestions concerning local problems in the administration of these proposals are not reaching us. To facilitate the exchange of such information we welcome the establishment of the office of field secretary who, acting as the physician's representative to the society, can bring to our attention

suggestions or objections to projects that will come up for future consideration.

I wish to take this opportunity to thank individually every member of our committee for his splendid response to meetings and especially to extend my appreciation for the efficient and dependable services they have rendered in the conduct of the affairs relative to their special divisions. You can be sure there could never have been a committee more gratifying with which to work.

Reports of the various members follow.

Fred Sternagel, Chairman

Insurance

While the membership in Iowa Medical Service has more than doubled during the past year, our enrollment has fallen far short of the goal set. The total membership now stands at about 39,000 members as compared with approximately 14,000 members one year ago. The tardy growth may be attributed first and foremost to a continuing lack of support by the physicians of the state, without which no significant expansion in membership may be anticipated. To date little more than half of the profession in the state has agreed to become participating physicians, and there still remain 43 counties where the numbers are too small to justify any sales effort. Without extending the subscriber membership generally to all classes and sections in the state, the plan will not meet the requirements set out in its organization by the profession.

The security and financial stability of Iowa Medical Service has at all times been of the greatest concern to your management. A survey and audit recently initiated by Allen and Company reveals a satisfactory condition at this time. The premium income for the year 1947 was \$297,350.28; the earned income \$270,410.68. The amount paid for claims was \$135,226.99, giving a claim ratio of approximately 50 per cent. The administration and sales cost totalled \$43,655.37, representing 16.1 per cent of the total earned income. As of December 31, 1947, the surplus was \$64,485.55. Anticipating unreported and unpaid claims and setting aside a reserve for these, one may possibly expect a claim ratio of from 55 to 60 per cent.

We have been meeting with increasing competition from commercial companies who have been attracted to the field by the generally successful operation of the physician sponsored plans. A study is being conducted at this time, by our Contract Committee, to ascertain if we can safely liberalize our benefits or reduce our subscription rates to make our contract more salable and competitive.

Information received from Iowa Medical Service indicates that during the fiscal year 1947, slightly over 500 participating physicians received payments from Iowa Medical Service. About half of this number received under \$100 in payments and the remainder received in excess of that figure. To contrast, one physician received payments in excess of \$5,000. To give an overall picture, 101 physicians received between \$100 and \$500; 34 received between

\$500 and \$1,000; 11 received between \$1,000 and \$2,000; and seven received between \$2,000 and \$5,000. The remaining 276 physicians received less than \$100 in payments.

The criticism has sometimes been made that the plan does not benefit the rural physician. On checking the list of slightly over 500 doctors who were paid during 1947, we find that 84 doctors residing in towns of less than 3,000 population were paid approximately \$7,500; 48 doctors in towns from 3,000 to 6,000 population were paid approximately \$5,000. In other words, 16 per cent of the doctors receiving payments were from communities smaller than 3,000 population—26 per cent were physicians in communities of less than 6,000 population. We cannot feel this is out of line but rather believe it must represent a fairly proportionate rate of return.

It is believed that these figures will change considerably when adequate hospital facilities are made available to all communities. Although hospitalization is not necessary for all of the service covered under our policy, it is true that major surgery and medical illnesses require hospitalization. When the rural physician has hospital beds for such patients, his participation in the plan will naturally increase.

Passage of the Hill-Burton bill which will give one dollar of federal funds to every two dollars of local funds will help many communities achieve their building program. The Iowa survey has been completed and the report has been accepted by federal authorities. Funds should be granted for the first projects sometime in April of 1948, it is hoped. As these hospitals are built and present ones are expanded, more and more doctors will have access to hospital facilities and consequently more benefit from Iowa Medical service.

For those physicians who are not familiar with all of the aspects of Iowa Medical Service—its coverage, benefits and responsibilities—the Committee on Medical Service and Public Relations hopes that within the next six months its new field secretary can do much to make them clear. The committee plans to have this secretary, Mr. Don Taylor, visit all county societies that wish further information about Iowa Medical Service, explain it to them, and bring back to us the questions and suggestions which occur to you. Mr. Taylor is to be your representative to the central office and your officers and committees.

Martin I. Olsen, Subchairman

Medical Practice

As a general statement we can say that medical service in Iowa since termination of the war has increased in quantity and quality. A few areas need more medical men and added hospital facilities to serve the public better. Probably the greatest need at present, with an enlarged hospital program in the making, is to give more thought to efficient personnel in the field of technicians. They are woefully lacking at the present time.

Pathologists and radiologists are overworked and find it difficult to keep up with the volume of work in their fields. In an allied field of medical service

is the shortage of nurses for hospital and private duty.

Increasing the number of hospital beds, while needed and commendable, should give us cause to reflect on how we will care for the increasing number of people who will avail themselves of hospital care in the coming years. Standards that are eliminating training schools, while idealistic and praiseworthy, may fall far short of providing nurses with that most essential quality, liking people, and a sympathetic attitude toward caring for sick people.

It seems to this member of the committee that a far-sighted program needs to be worked out, with participation by physicians active in the field of general practice.

F. A. Hennessy, Subchairman

National Legislation

At the national level, little has been accomplished either in legislation or in political public relations. Public hearings upon the Wagner Bill and the Taft Bills should be completed by April first. A comprehensive report will be presented to the House of Delegates.

R. D. Bernard, Subchairman

Public Health

The hospital survey for this year has been completed. There have been a few minor complaints that have been ironed out, and as the program stands as a whole, it is a magnificent achievement of the State Department of Health that has been responsible for it. Almost all of the state is in accord with the Department of Health in all of the details of the survey, as well as the Department's recommendations.

The program at present is in Washington awaiting final approval so that the actual building can get under way. When this approval comes Iowa will rank foremost in the states in hospital facilities, in a reasonable time.

H. E. Stroy, Subchairman

Rural Health

Most of the work of the committee for this year has been a continuation of the studies started last year. Correspondence has been carried on regarding the possibilities of developing some type of externships for junior students at the College of Medicine.

Work has been carried on in the formation of rural health councils in various counties. The major portion of this work is being done by Dr. Murray of the State Department of Health, but the committee has acted in an advisory capacity.

Blue Cross has expanded to some extent in rural counties, but is still far from covering the state. The Blue Shield or medical service plan has not been expanded as was hoped. A good deal of this can be laid to the fact that many of the physicians, members of the State Society which developed the plan, have not seen fit to become participating members and so the policies cannot be sold in their counties. It is hoped that this can be remedied in

the future as more of us become acquainted with Iowa Medical Service.

Members of the committee have attended the National Rural Health Conference and the National Conference on Medical Service in Chicago and have exchanged ideas with similar committee members from other states.

Ernest E. Shaw, Subchairman

Social Agencies

Your committee has had several conferences with the State Department of Social Welfare. The Aid to the Blind and Aid to Dependent Children programs are now administered at the county level. The medical care plans for Old Age Assistance cases continue to be rather unsatisfactory.

Vocational Rehabilitation is offering a somewhat improved fee schedule for medical and surgical restoration. The profession should probably make better use of the services of this organization.

Charles T. Maxwell, Subchairman

Veterans' Affairs

Your committee on veterans' affairs met in April, 1947, and began work on renegotiations with the Veterans' Administration for a fee schedule to take effect July 1. It was suggested that a meeting of the different states in the North Central Conference might be helpful in arriving at some satisfactory schedule, and as a result a conference was called for May 25. Representatives from Minnesota, Iowa, Nebraska, North Dakota and South Dakota met at St. Paul with Dr. J. I. Fitzsimmons of Branch Office No. 8.

This was an interesting meeting. Nebraska was still operating under the old VA schedule. It was our impression that the Iowa fee schedule was a good average. Some states had higher fees on some items, some lower.

The Iowa representatives felt that fees for the entire region should be similar, although not identical necessarily, and that the states should protect themselves against having the VA play one state against another on certain fees. This, we felt, can be accomplished by such conferences as this, and by correspondence between the various states.

The following motions were presented and seconded by all representatives present:

1. Once a fee schedule is agreed upon in a state, the state should adhere to it regardless of other schedules, and should not accept any change without proper and reasonable arbitration with the VA.
2. States should protect the VA against any attempts to defraud or victimize it by unscrupulous persons. This means the states must adopt a policing program.
3. Fee schedules should be the standard fee schedule for the state. The program should not be a money-making project and the taxpayers' rights should be safeguarded.
4. States should act individually with regional differences considered, but there should be no great variance in fees in the area even so. It would be inadvisable for all states in the area to act as a

unit, but under the nature of things there cannot be a great deal of difference between them.

Following this conference, Part 1 of the fee schedule was accepted by the Veterans Administration, and we were also told that when procedures in Part 2 had to be performed, they would be authorized at the figure submitted by us. Prior authorization is necessary in such cases.

The Council on Medical Service of the American Medical Association also held a conference on home town medical care plans in Chicago in November. Representatives from 41 states were present. Dr. Paul R. Hawley, Chief Medical Director, and Dr. J. C. Harding, Assistant Medical Director, represented the Veterans Administration.

At this meeting it was brought out that 13 states were operating on the Michigan plan (Iowa is); 18 under the Kansas plan; 6 states had no program; three had plans in progress; and no information from the other states.

Several representatives wanted to know why the program was not functioning more smoothly in their particular area. Many expressed the feeling that their own program would be more satisfactory both to the veteran and the medical profession if the employees in regional and branch offices had the "Hawley philosophy." Dr. Hawley asked to be advised of specific administrative difficulties so that proper solutions could be attempted.

The future intent of the VA and its plans for more and expanded VA facilities created general interest. Many expressed the fear that the creation of new facilities and the expansion of existing facilities might result in the abandonment of the home town program. Dr. Hawley pointed out that the establishment of clinics had not kept pace with the case load. After World War I, there were approximately four million veterans; a total of 51 clinics were created to care for this load. At the close of World War II, there were approximately eighteen million veterans and there are now only 70 clinics. Interpreting the number of veterans per clinic, the original ratio was one clinic for each 127,000 veterans while now there are about 339,000 veterans per clinic.

When asked why new VA facilities were being constructed in areas where other hospitals are already in existence, he said they were Army units for the most part and the VA could not depend upon their availability.

It was conceded that the future of the program providing medical care to veterans under the home town program would depend on the number of satisfied veterans and the extent to which this satisfaction is expressed in their future voting.

Originally the facilities of the VA were utilized only by veterans who could prove service-connected disabilities. This was extended to non-service by act of Congress, not through the VA itself. Dr. Hawley repeatedly emphasized that Congress has set up the rules and regulations and the VA necessarily is bound by them. He welcomed the suggestion

that a committee from the American Medical Association meet with officials in Washington to establish policy with regard to the home town medical care program and said he would extend such an invitation.

This meeting concluded with the suggestion that states having special problems or ideas regarding policy refer them to the American Medical Association Committee on Veterans' Affairs for further referral to authorities in Washington.

An informal conference was held by your chairman on November 23 at St. Paul with Dr. Andreasen and Dr. Fitzsimmons.

Figures for the home town program in Iowa for eleven months of 1947 are given so that the doctors may realize the extent of the program. The VA released 20,736 treatment authorizations in that period, and 889 in January, 1948, so that a year's total would be 21,625. In that time authorizations for examinations totalled 17,759.

Over a quarter of a million dollars (\$251,930.59) in authorizations was released to Iowa Medical Service, Veterans Division, from February 1 to December 31, 1947, inclusive, with an additional \$29,965.49 processed in January, 1948, making a total dollar volume of \$281,896.08.

We are advised by the Chief of the Outpatient Department at the Veterans Administration in Des Moines that the service rendered through Iowa Medical Service is over 90 per cent satisfactory. He suggested that the reports, especially of examinations, be more specific and in detail, as the VA needs all of the information possible to evaluate the veterans' degree of disability.

We have received the utmost cooperation from the VA offices at St. Paul and Des Moines, and from Iowa Medical Service also.

R. C. Gutch, Subchairman
E. M. Honke
J. S. McQuiston

REPORT OF THE MEDICOLEGAL COMMITTEE

The Medicolegal committee, during the past year, has not encountered any new and serious defense problems.

At the time of formulation of this report there is only one malpractice case pending and through its efficient and tactful handling by our legal representative, there is every reason to believe that the suit will die a natural death.

Frank A. Ely, Chairman

REPORT OF THE COMMITTEE ON NECROLOGY

I am very sorry to report that sixty-one members of the Iowa State Medical Society died in 1947, the youngest being 43 years of age, and the oldest 95.

Will the House of Delegates please stand for a moment in memoriam while we read the names of those who are no longer with us.

Name	Town	Age
J. Frank Auner	Des Moines	74
Benjamin S. Barnes	Shenandoah	63
Thomas F. Beveridge	Muscatine	80
William Bockoven	Cresco	53
Martin T. Brewer	Des Moines	72
Chauncey L. Brittell	Chariton	64
Benjamin G. Broghammer	Cedar Rapids	49
Samuel J. Brown	Panora	75
Frank E. Burbank	Pleasantville	90
Herbert W. Canfield	Baxter	72
Harry E. Carver	Earlham	71
Alvin H. Chilson	Plymouth	62
William E. Day	Clarksville	72
Albert B. Deering	Boone	73
Franklin T. DeWitt	Nemaha	83
John W. Donnell	Hudson	77
Elmer I. Dunkelberg	Waterloo	58
Alford J. Farnham	Traer	69
August Groman	Odebolt	90
John C. Hancock	Dubuque	75
Daniel C. Hankey	Council Bluffs	64
Edna Sexsmith Harper	Greenfield	63
Olin B. Hawley	Corning	65
Charles M. Hazard	Arlington	77
William C. Hess	Cresco	73
Wilson W. Holmes	Keokuk	78
Frank A. Hubbard	Columbus Jct.	82
Samuel W. Huston	Mount Pleasant	72
Joseph W. Jinderlee	Cresco	73
John L. Klein	Muscatine	73
Edward P. Kennedy	Swaledale	65
Eugene O. Koeneman	Eldora	76
William R. Koob	Brayton	77
Frederic Lambach	Davenport	81
Ewen M. MacEwen	Iowa City	61
Leo M. Maguire	Des Moines	55
Damon G. Matthews	Milton	68
George A. Mauer	Le Mars	62
James T. McConaughy	Mount Pleasant	71
Diedrich J. Meents	Fort Madison	70
Herbert D. Mereness	Dolliver	71
Wesley J. Netolicky	Cedar Rapids	76
Martin D. Ott	Davenport	56
Ora F. Parish	Grinnell	73
James D. Parker	Fayette	79
Jesse H. Phillips	Montezuma	95
Louis J. Porstman	Davenport	82
Joseph L. Ravitts	Montezuma	63
John F. Ritter	Maquoketa	77
Frank J. Rohner	Iowa City	64
Harold W. Schoon	Sibley	43
James F. Stafford	Lovilia	66
Kuno Struck	Davenport	63
John E. Swanson	Sioux City	75
John L. Tamisiea	Missouri Valley	81
Adolph N. Thoms	Cedar Falls	55
Harry F. Thompson	Forest City	77
William L. Thompson	Bayard	85
Howard L. Van Winkle	Cedar Rapids	65
John W. Wailes	Davis City	82
Herbert C. Woods	Tama	77

Robert N. Larimer, Secretary of the Council

REPORT OF THE PUBLICATION COMMITTEE

The Journal of the Iowa State Medical Society continued to serve the physicians of the state during 1947 in the same general pattern as had existed previously.

Less restrictions on the use of paper enabled the committee to increase the number of original articles included, and hence the number of reading pages. Maintenance of approximately the same amount of advertising and a sharp increase in printing costs caused the margin of profit to be less than that for 1946, but nevertheless the Journal made expenses for the second consecutive year.

This was possible through the continuance of the Cooperative Medical Advertising Bureau to furnish advertising contracts from national firms. This Bureau is to be congratulated upon the results of its efforts, for upon it depends the publication's financial success. Doctors can help maintain this success by patronizing the firms which support the Journal.

A heavier weight of paper was obtained mid-year, particularly facilitating legible appearance of illustrations. Two new sections were added: "News Notes from the Committee on Medical Service and Public Relations" in the February issue and the

"Speakers Bureau" in the October issue. For the fifth time the April number was contributed by the State University of Iowa College of Medicine, this time in commemoration of that institution's centennial. Despite repeated requests for the privilege of purchasing space on the front cover of the publication, the committee voted to retain the present design.

Members of the committee and office staff extend their appreciation for the support of the medical profession during 1947. Only through the members' cooperation with and contributions to this printed organ of the Society is it possible for the Journal to be of value to the three thousand people who receive it monthly.

	1945	1946	1947
Reading Pages	508	548	572
Advertising Pages	460	518	512
Percentage of Reading Pages..	52.4%	51.4%	52.8%
Original Articles	48	67	77
Editorials	54	56	56
Total Journal Expenditure.....	\$16,619.17	\$18,904.22	\$20,625.68
Total Journal Income	\$16,541.11	\$20,380.20	\$20,877.31
Net Expenditure for Journal..\$	78.06		
Net Profit for Journal		\$ 1,475.98	\$ 251.63
Number State Society Members	2,401	2,381	2,377
Net Expenditure per Member ..\$	.0325		

Everett M. George, Editor

Reports of Special Committees

REPORT OF THE CANCER COMMITTEE

The Cancer Committee has had only one meeting during the year but has cooperated consistently with the other groups in the state that are interested in the general problem of cancer control—the Iowa Division of the American Cancer Society and the Division of Cancer Control of the Iowa State Department of Health. Through a subcommittee, we worked with both organizations to develop the cancer institutes which have been so well received in several cities of the state. Another subcommittee consisting of Doctors Erskine, Singer and Ward has been revising the *Cancer Manual* which was first published in 1937. The work is nearly completed and the new manual should be ready for distribution this spring. It is hoped that the Board of Trustees will see fit to bear the cost of publication and distribution to every physician in the state.

The Iowa Division of the American Cancer Society exceeded its quota in the 1947 campaign for funds; more than \$250,000 was collected. The funds are being used in large part to organize the state for an intensive educational campaign directed at the lay public. Every county is now organized and actively promoting the cause of cancer education. Members of the committee and other volunteer physicians are playing a large part by giving authoritative talks on the diagnosis and treatment of malignant diseases. A new magazine, *New Horizons*, is being published quarterly and is sent free to anyone who indicates in writing a desire to receive it. Distribution is carried out by the county chapters. While the Division recognizes that professional edu-

cation is a function of medical organizations it is sending the periodical, *Cancer Bulletin*, to all physicians in the state.

The problem of service to cancer patients is limited largely to making dressings and providing equipment for home care, and is being handled on a county basis as the need appears and funds become available. Some funds are available for providing extra training in special areas for physicians interested in the cancer problem, with the hope that it will improve the definitive diagnosis and treatment of the condition.

The Iowa Division is offering considerable support for research. In addition to financing a study (at the University) of the practicability of cytologic diagnosis as a means for screening large groups of women for genital cancer, it has given the University \$35,000 toward equipping a radiation laboratory. Building is now under way and investigative work should be possible by spring. While the isotopes still offer little hope for more effective therapy, they should prove invaluable in studies concerning the fundamental problems of explaining the uncontrolled growth of cancer cells.

All in all, the year has seen significant advances in the problem of cancer control in Iowa, and prospects for the future are brighter than at any time. Your committee feels that, without funds of its own, it can best carry out its function in cooperating as closely as possible with the other agencies which have the money but which need the support and guidance only professional people can give.

E. D. Plass, Chairman

REPORT OF THE FRACTURE COMMITTEE

The Fracture Committee has no formal report to make. There has been no formal program by the committee so far this year.

On Sept. 6, 1947, a group representing most of the orthopedic men of the state met at Fort Dodge and were guests for the day of Dr. Knowles. A clinic was held in the morning, and a number of x-rays were shown by the various men in the afternoon for some discussion. During the afternoon period several hours were spent in preparing a fee schedule for the veterans' program. This was not an official activity of the Fracture Committee, but since most of the committee was there, it is mentioned.

C. O. Adams, Chairman

REPORT OF THE HISTORICAL COMMITTEE

During the past year very important additions have been made to the medical history of Iowa.

At this time the committee desires to direct attention to the coming Centennial of the Iowa State Medical Society. In June, 1950, our society will have completed its first one hundred years. It is recommended that the society at this annual meeting institute plans to commemorate appropriately this historic epoch of the Iowa State Medical Society.

Walter L. Bierring, Chairman
Lester C. Kern
Charles L. Jones
Clyde A. Henry
Henry G. Langworthy, Secretary

REPORT OF THE INDUSTRIAL HEALTH COMMITTEE

The chairman of the Industrial Health Committee met with representatives of the State Department of Health in an effort to formulate a coordinated plan of activity, particularly in view of the new revised workmen's compensation laws of October, 1947. The committee members have been contacted individually by letter and have received all of the pertinent literature to date regarding industrial hazards, health, and safety appliance laws.

Iowa industries in general are made up of many relatively small factories or plants with part time physicians working on an insurance fee basis. This, with a shortage of personnel in the State Department of Health, has made systematic inspection, as well as study, difficult.

The chairman attended the Congress on Industrial Health in Cleveland January 5 and 6, contacting Drs. Peterson and Hennessey of the American Medical Association Section on Industrial Health. Dr. Hennessey is now sending us his suggestions for the institution of a long range program such as would be suitable in Iowa.

With this for an activity consisting mostly of gathering information in cooperation with our State Department of Health and the American Medical

Association, it is hoped that this committee will have concrete recommendations for the society at the next annual meeting.

Clark N. Cooper, Chairman

REPORT OF THE COMMITTEE ON MATERNAL AND CHILD HEALTH

Your committee on Maternal and Child Health has not had many questions brought before it during the past year. With the EMIC program now at a low point in the state, it has not presented any problems to us.

We look with favor on a proposition brought before us by the State Department of Health of holding meetings of a pediatric and obstetric nature throughout the state this spring and summer. These meetings are to be similar in nature to the cancer institutes with afternoon and evening meetings and outstanding men as guest speakers. The Speakers Bureau will handle the mechanics of these meetings. We feel these would be of interest and value to the men over the state. Subjects proposed for those meetings included: rheumatic fever in children, relation of nutrition and pregnancy, infant feeding with the new ideas now in vogue, behavior problems and how to avoid them, care of abortions, blood dyscrasias in children, malignancies in children, skin disorders in children and the eczematous baby, obstetric analgesia, Rh factor, lactation and breast feeding, endocrinology in the child, postpartum complications, anemias in children and many other interesting subjects.

Your committee discussed for future consideration the setting up throughout the state of stations for the care of premature infants, with a preliminary study of personnel and equipment necessary for such a program.

H. E. Farnsworth, Chairman

REPORT OF THE SPEAKERS BUREAU COMMITTEE

The activities of the Speakers Bureau increased somewhat during 1947. In spite of the renewed interest in medical postgraduate and educational facilities, there were still fewer requests for programs and speakers at the various meetings held throughout the state than in the prewar years.

In cooperation with the American Cancer Society, Iowa Division, and the Cancer Division of the State Department of Health, the Speakers Bureau arranged seven cancer institutes consisting of thirty lectures during the months of September to December. Council Bluffs, Des Moines, Dubuque, Fort Dodge, Mason City, Sioux City and Ottumwa were host cities to these meetings. Seven hundred twenty-five physicians were registered, and it is believed that approximately 300 more attended some part of the programs. The physicians who took advantage of the institutes seemed to feel that the material presented had been most worthwhile, and many favorable comments were received regarding the programs and the speakers.

A postgraduate course consisting of a series of eight lectures was arranged last spring for the Kossuth County Medical Society, and a large majority of the doctors in and around that county attended the meetings at Algona. In the fall, Sac County sponsored a series of five lectures at Sac City. Although invitations were extended to physicians in Sac County and all surrounding counties, only a very few were present to enjoy the splendid programs offered. The five postgraduate lectures at Fort Dodge were well attended, and those present indicated an active interest in the scientific material presented.

In addition to the splendid addresses given by members of our State Society, prominent specialists from Illinois, Minnesota, Nebraska, Wisconsin, New York and Kansas were included in both the cancer institutes and postgraduate programs. These physicians contributed much new and valuable knowledge to the general practitioner. We deeply appreciate the cooperation and efforts expended by the speakers, the local chairman, and the many others who made all of these programs successful and worthwhile.

Nine county societies and six lay groups availed themselves of the Bureau's services in planning their regular meetings during the past year. Members of the society from various sections of the state presented talks on suggested subjects, or educational and scientific films were shown as requested.

The weekly radio broadcasts over stations WOI in Ames and WSUI in Iowa City have been continued as in the past. Requests from the listening audience for over 1,400 copies of the talks are evidence of the excellent choice of material presented in the manuscripts submitted by physicians of the State Society.

The Committee is pleased to present the financial report of the Speakers Bureau for 1947.

ACCOUNT FOR 1947 INCOME

Receipts from Postgraduate Medical Courses	
Kossuth County	\$ 403.50
Sac County	178.00†
Webster County	000.00*
Total Speakers Bureau Income.....	\$ 581.50

EXPENDITURES

Salaries	\$1,787.70
Travel Expense for Speakers.....	85.21
Postgraduate Course Travel Expense.....	369.65
County Society Services.....	20.22
Radio	33.75
Stationery, Printing, Telephone, Postage, etc.	290.96
Total Speakers Bureau Expenditures.....	\$2,587.49
Deficit for 1947.....	\$2,005.99
Funds received from Iowa State Medical Society to Offset Deficit.....	\$2,005.99

This income when received will be credited against the 1947 deficit of \$2,005.99, making the actual deficit \$1,514.54.

We wish to express our sincere thanks to all who

*Amount due from Webster County, \$359.50 (paid January, 1948).

†Amount due from Sac County, \$131.95.

have so willingly contributed their time and energy to the activities of the Speakers Bureau.

Herman J. Smith, Chairman
Horace M. Korns
Robert N. Larimer
Ben F. Wolverton
Luther C. Hickerson

REPORT OF COMMITTEE ON TUBERCULOSIS

On Sept. 28, 1947, a meeting of the Committee on Tuberculosis was held at the central office in Des Moines. Those present were: Drs. R. J. Harrington, Sioux City; D. R. Webb, Cedar Rapids; R. E. Smiley, Mason City; L. J. Galinsky, Des Moines; and J. Carl Painter, Dubuque, Chairman.

At that time a very thorough discussion was made of the situation at the University Hospitals in regard to the service given the patients over the State of Iowa in thoracic surgery. It was pointed out at this meeting that there were only four beds available for the use of surgery in tuberculosis, and that these beds were in the Isolation Section and when polio epidemics occurred they were not available at all.

Many other states have entire sections for the service of thoracic surgery, and it was felt the University Hospitals should not be so far behind in the ability to give this service to the people of Iowa.

The committee drew up the following resolution and presented it to the Executive Council of the State Society October 8:

"We recommend (1) that the thoracic surgery section of the University Hospitals be expanded to meet the needs in this state, and to provide thoracic surgical care for both tuberculous and non-tuberculous patients; and (2) that provision be made for hospitalizing patients in the department between the stages of thoracoplasty."

The Executive Council approved the recommendation and asked that the matter be called to the attention of Dean Carlyle F. Jacobson, State University of Iowa, with the recommendation that every effort be made to accomplish this expansion.

J. Carl Painter, Chairman

The Speaker: Next will be the reports of the standing committees of the House of Delegates. The first on the agenda is Constitution and By-Laws, Dr. Henkin, Chairman.

Dr. John H. Henkin: The committee on Constitution and By-Laws wishes to call your attention to a revision of the Constitution which is up for final vote this year as you will find it on page 26 of the handbook. It applies to Article V, Section 1, and reads as follows:

"The House of Delegates shall be the legislative and business body of the Society, and shall consist of delegates elected by the component county societies. They shall have the sole voting power at meetings, except that the President shall cast the deciding vote in the event of a tie vote."

To understand the significance of this, may I remind you that this is proposed in lieu of the present existing article which states:

"Section 1. The House of Delegates shall be the legislative and business body of the Society, and shall consist of (1) delegates elected by the component county societies, and (2) ex officio, the officers of the Society as defined in this Constitution."

In other words, if this revision of the Constitution carries, it will prohibit the councilors, trustees and officers of the Society from voting in the deliberations of the House of Delegates.

This amendment to the Constitution was not presented by the Committee on Constitution and By-Laws, but by an individual, a prominent member of the Society. I know that he had the very best of intentions and also has some very logical reasons for presenting this amendment.

However, it is the feeling of the Committee on Constitution and By-Laws that our Society is not an extremely large society—that attendance of delegates is not always complete. Many times some counties go unrepresented. At the meeting on the last day, which is important, many of the delegates are not present. We feel that the officers, councilors and trustees of the Society who spend a great deal of time in the management of affairs of our profession throughout the year embrace too much of the know-how of the Society to be shut out from the deliberations and the voting power in arriving at conclusions. For that reason we recommend the defeat of this proposed change in the Constitution. The councilors are very important officers of the Society. Instead of representing one county, they represent a group of counties and are really over-all delegates. So far as my personal experience and that of the other members of the committee go, we feel that, for the greater part, they keep in very close contact with their component county societies. We feel that the councilors should be very carefully selected and should not be elected perfunctorily.

We have the following recommendation for an amendment pertaining to the election of councilors, that we wish to offer at this time. It is an amendment to Article VIII, Section 2 of the Constitution. By way of explanation, most of you know that the councilors are nominated by the delegates from the district which they are to represent, and they are approved by the House of Delegates as a whole. They are elected for five years at present, with no limitations on their length of service.

Our committee recommends that this Article be revised to read as follows:

"The president-elect and vice presidents shall be elected for a term of one year, the secretary and treasurer for three years, and the councilors for three years—the councilors being divided into classes so that four shall be elected each year except in every third year when only three shall be elected. No councilor shall serve for more than three successive terms. The trustees shall be elected for three years, one each year. All these officers shall serve until their successors are elected and installed. The president-elect shall enter upon the duties of the

presidency on the last day of the annual succeeding session at which he is elected."

The only change is that which pertains to the councilors.

In making this recommendation, the committee also recommends that, if possible, this shall be carried out only at the conclusion of the terms of the presently elected councilors, but that it shall be effective to the extent that if any councilor has already served nine or more years, he shall not be eligible for re-election. This is signed by Henkin, Rodawig and Conner. Mr. Chairman: I *move* the adoption of the report.

[*The motion was seconded.*]

Dr. Downing: Mr. President, you have a very ambiguous motion. You have both a "yes" and "no."

The Secretary: Mr. President, the second part of the recommendation given by Dr. Henkin is merely presented as having been read. It has to lay over for a year until it can be voted on because it is a constitutional amendment. It has been read and therefore can be eliminated from further consideration at this time.

You now vote on the motion to defeat the proposed amendment, which is a roundabout way of doing it. If we adopt the recommendation, we vote to defeat the primary motion which eliminates the officers' right to vote.

The Speaker: Any further discussion? Ready for the question?

Dr. Lee R. Woodward: I am just a little confused. If we vote for the motion, what will we do with regard to the recommendation?

The Speaker: The chairman of the Committee on Constitution and By-Laws recommends the defeat of the amendment to Article V, Section 1. The question before the House, therefore, is to vote upon the proposed change.

Member: Won't that report have to be divided?

The Secretary. The latter part of the report, dealing with terms of the councilors, cannot be voted on by this House at this time. It has to lay over for a year, because it is a constitutional amendment.

The only thing under consideration is the committee's report regarding the amendment to take away the vote from the officers. If we adopt its report, we will disapprove that amendment.

The Speaker: Are you ready to vote upon the acceptance of the report of Dr. Henkin with reference to the amendment of Article V, Section 1?

Those in favor say "aye"; opposed "no." The "ayes" have it. *It is carried.*

The reports of the Finance and Legislative Committees were accepted as printed in the handbook.

The Speaker: Medical Education and Hospitals.

Dr. George H. Scanlon: Last year, our Committee on Medical Education and Hospitals, consisting of Dr. J. V. Treynor of Council Bluffs, Dr. R. F. Birge of Des Moines, and myself, reported to this Society in detail the medical compensation plan adopted by the medical school at the State University of Iowa.

The Plan was instituted *in full* at the beginning of the 1947 biennium. At the beginning of the school year in 1947 the Medical School found itself in the following position:

1. No Dean.
2. No Head of the Department of Internal Medicine, which had been vacant eighteen months at that time.
3. No Head of the Department of Neurology—then vacant fifteen months.
4. No Head of the Department of Surgery. Dr. Peterson resigned July 1, 1947.
5. The Head of the Department of Dermatology was incapacitated because of ill health.
6. The Head of the Department of Obstetrics and Gynecology was incapacitated because of ill health.
7. The Head of the Department of Urology had been demoted to Acting Head.

Since that time, however, the following changes have occurred: Dr. Mayo Soley, of San Francisco, was appointed Dean in March of 1948, and will assume his duties on or about July 1, 1948. Dr. William Bean was appointed Head of the Department of Internal Medicine on March 1, 1948, and he will assume his duties on or about Sept. 1, 1948. Dr. Nathan Womack was appointed Head of the Department of Surgery in December of 1947 and assumed active duty on or about March 1, 1948. The Heads of the Department of Dermatology and the Department of Obstetrics and Gynecology have both regained their health to a certain degree and are now assuming most of their duties. The former Head of the Department of Urology has been reinstated as Head. The Chair for the Department of Urology is still vacant. The task of securing high-caliber men to assume the various Headships was apparently a very difficult one; many different interviews were held before the above-mentioned men were appointed.

This Society might be interested in knowing that this present Committee made a report to the Executive Council of the State Medical Society on Oct. 8, 1947, when some of the problems confronting the Medical School at the time were discussed. As a result of that meeting, the Executive Council wrote a letter to the President of the University of Iowa and to the members of the State Board of Education stating that the Society was deeply concerned over the conditions at the University of Iowa's Medical School, the many resignations and the number of vacancies in the various departments. It also emphasized the fact that the College of Medicine should be primarily a teaching institution whose purpose was to produce good doctors with high ideals. The Council also felt that the College of Medicine, under its present plan, was quite definitely entering into the field of private practice and it frowned upon its advances along this line. It asked that the original agreement under which private patients were held to 5 per cent of the bed census in the hospital be adhered to, instead of permitting 13 and 14 per cent, as it has been the last few years.

The committee then met on March 31, 1948, and a conference was held with President Hancher and Dean Jacobsen. Many of the problems which are of interest to the State Society and the Medical School were discussed. The meeting had a very frank, but very cordial, tone, because we were all working for the same ultimate goal—namely, maintaining a medical school with high standards of medical education.

A few pertinent facts, however, were acknowledged. These were:

1. The new plan, although in *full* operation since July 1, 1947, has had a tendency to put more emphasis on private practice instead of minimizing it, as was the original intention.

2. The private bed situation is still running about the same percentage and it was the feeling of the Committee that the University authorities have no intention of going back to the original 5 per cent agreement. They stated they would try not to increase the bed capacity, although they admitted that certain commitments to the incoming men had been made and these would have to be fulfilled. The President stated that rather than increase the private beds any further, he would try to reallocate them to the different departments.

3. While Dean Jacobsen and President Hancher felt that the morale of the medical school was fairly good, brief interviews with some of the younger men indicated the opposite was more likely. A few of them went so far as to say that they had never known it to be at a "lower ebb."

In conclusion, the committee members feel the same as they did last year when they stated in their report that this is definitely a form of socialized medicine, state medicine—or whatever you wish to call it; however, they feel that the plan has not been in effect long enough for a fair appraisal. Only one new department head has worked under it, namely, Dr. Womack, and he for only a short period of time. The other heads, Dr. Soley and Dr. Bean, will arrive at a later date. We as a Society, therefore, should give these men an opportunity to prove their worth. Upon them, and those already in charge, rests the responsibility of keeping the institution out of socialized medicine, seeing that it adheres to the agreement made with the State Society, and seeing that the younger men's worth is evaluated and their promotion and security guaranteed. Most important of all, it is their responsibility to train and educate excellent medical students whose ideals are such that they will carry out the high democratic traditions established by the many men who have gone before them. The committee furthermore feels that in a year from now it will be able to present to this Society a more detailed report of this compensation plan. In a personal conversation with President Hancher, he assured me that a year from now they would be in a position to realize the good and bad parts of this program. He frankly stated that if this program is wrong, he would be the first one to want to change it.

We recommend, therefore, that the Society take no action at this time other than to ask the committee to continue its observation and investigation, and to assure the Board of Education, the President, and the faculty of the University of Iowa's Medical School of its full cooperation.

Dr. Scanlon: I move its adoption.

[*The motion was seconded, put to a vote and carried.*]

The reports of the Medicolegal and Medical Service and Public Relations Committees were accepted as printed in the handbook.

Dr. R. D. Bernard: I have a supplementary report that I promised to bring. You notice that I said nothing about national legislation in the handbook. I am about to give you the same thing again in a little different dose.

To present a complete record of legislation affecting the medical profession which has been introduced into the second session of the 80th Congress would prolong this report beyond reasonable limits. Practically no important legislation has been enacted into law. This report is a brief summary of this legislation and comments upon other items of vital interest.

Representative Dolliver and Senator Saltonstall have introduced bills "to assist the states in the development and maintenance of local public health units and for other purposes." This amounts to a Federal subsidy for these units. After offering several constructive criticisms, the American Medical Association has approved the bills. Your Committee on Medical Service and Public Relations also approved them this afternoon.

The osteopaths are now recognized by the Army, Navy, and the Veterans Administration and will, without doubt, be recognized by the Public Health Service.

The Murray-Wagner-Dingell bills have been "improved" by H. R. 5356 to include the self-employed, agricultural workers, servicemen, employees of nonprofit organizations and employees of state and local government.

S.1290 (National School Health Service Act). This was endorsed by the Parent-Teachers Association and originally introduced in the last Congress. This bill provides that subsidies should be paid the states through the Children's Bureau of the FSA to "establish and develop school health services for prevention, diagnosis, and treatment of physical and mental defects and conditions of children." The American Medical Association has raised some serious objections to this bill but the real fireworks started when Dr. John P. Hubbard of the Academy of Pediatrics and director of the committee for improvement of child health expressed the Academy's attitude. He is quoted in the March 26 issue of the Des Moines Register as follows: "Not all of us share the American Medical Association's philosophy of fear of socialized medicine. We know the time is coming when the government will have to support medicine in some degree. We want to be in position

to direct that support." Dr. Hubbard has stated that he was misquoted. I direct your attention to the above in the hope that Dr. Lee Hill may give you the correct attitude of the Academy.

As usual, the chiropractors have been very active but have had no success in slipping in the side door of important legislation.

Hearings are still in progress on the two health bills S. 545 and S. 1320. Senator Donnell and Dr. Marjorie Shearon have carried the ball for the American Medical Association and, apparently, are doing a fine job. It is anyone's guess when these hearings will be completed.

A National Health Assembly has been scheduled for May 1 to 4. There are 14 sections. Practically all of these sections are of vital interest to the members of this Society. We should have not less than two representatives attend this Assembly. In voting on this, gentlemen, I would not wish the House of Delegates to go on record that we must send two members to Washington for that. I am merely recommending that something like that be done.

The latest headache is the announcement on April 15 that both Houses of Congress are considering bills to be introduced which will provide for "induction into service" of all members of the medical profession under 45 years of age. By "service" they mean *armed* service. Senator Wilson is the only Iowa member of the committees that are working on these bills. I might add in a meeting in Chicago a couple of weeks ago, the American Medical Association discussed these bills and we have been unable to find out what its recommendations are. I move the adoption of this report.

[*The motion was seconded, put to a vote, and carried.*]

Dr. H. E. Stroy: I have a supplementary report, Mr. Speaker and members of the House of Delegates. I am Chairman of the Subcommittee on Public Health of the Committee on Medical Service and Public Relations.

Since making the report that was printed in the handbook I should like to report that the state hospital survey and building program has received official approval in Washington. Several communities are well along with their individual programs and concrete evidence of this will soon be seen.

During the past few years the medical profession has become increasingly aware of the acute shortage of trained nurses, as has the public at large. The Woman's Auxiliary of this society has proposed to further the end of nurses recruitment through appropriate publicity. This is a notable contribution on its part but it has been severely handicapped by lack of funds. Consequently the president came to your committee on public relations for help. After consulting and obtaining approval of the board of trustees it was agreed that some of the funds allotted to our committee could best be expended for the purpose of publicity for nurse recruitment, and we have cooperated with the auxiliary in this respect.

In view of the fact that there is a shortage of nurses and in view of the fact that the medical society has had complaints of discrimination against the smaller schools of nursing, it was deemed advisable to submit a questionnaire to a representative group of such schools. This was done and as you will note in the tabulation there were twenty replies.

The questionnaires were not signed, for the most part, because we felt we could get a more representative opinion or cross-section from the superintendents of these hospitals if they did not have to sign them. The originals of this questionnaire are on file with the secretary and you may see them at your leisure.

Question 1. "Has the revised method of giving State Board examinations to nurses worked to the detriment of your graduating classes?" The answers were "yes"—12 and "no"—8.

Question 2. "Is the percentage of failures higher now in your graduating classes than before the war?" The answers were "yes"—15 and "no"—5.

Question 3. "Do you feel that the smaller training schools are being discriminated against in favor of the larger schools?" The answers were "yes"—14 and "no"—6.

Question 4. "Do you feel that entrance requirements for nurse's training are too high?" The answers were "yes"—4 and "no"—16.

Your subcommittee submits this tabulation to you without specific recommendation.

Dr. Stroy: I *move* that this supplementary report be accepted.

[The motion was seconded by Dr. Spilman, put to a vote and carried.]

The Speaker: Do any other subcommittee chairmen of the Committee on Medical Service and Public Relations have reports? If not, we will hear from the chairman of the Publication Committee, Dr. George.

Dr. Everett M. George: I *move* the adoption of the report as published in the handbook.

[The motion was seconded by Dr. Marker, put to a vote and carried.]

The Speaker: We will now hear from the chairman on Necrology.

The Secretary: Will you please stand while we read the names of the men who have left us?

[The members arose and remained standing during the reading of the names of the deceased members.]

The Speaker: Reports of Special Committees of the House of Delegates. Baldrige-Beye Memorial Committee.

The Secretary: The report of the Baldrige-Beye Memorial Committee is to be presented by me because of the fact that Dr. Agnew of Davenport was not sure he could be here.

The Baldrige-Beye Memorial Committee has met and has selected Malcolm Kruse Campbell of Malvern, Iowa, a senior student in the College of Medicine of the State University of Iowa, as the recipient

of the Baldrige-Beye Memorial award for the year 1948.

The selection of this student is based on the following factors:

(1) An original paper submitted to the committee entitled "Preliminary Studies of Bone Decalcification."

(2) This student is an outstanding member of his class.

Because the above mentioned paper was the only one submitted and therefore there was no competition, it was felt that the award could not be based on this alone. However, since the paper is worthy of consideration because of the original work done, and because the student submitting it is an excellent student and outstanding in his class, the committee unanimously felt that the award should be made to him.

J. W. Agnew
W. M. Fowler
E. D. Warner

The Secretary. I *move* its adoption.

[The motion was seconded by Dr. Spilman, put to a vote and carried.]

The Speaker: Chairman of the Cancer Committee, Dr. Erskine.

Dr. Arthur W. Erskine: I would like to make a supplementary report.

The subcommittee of the cancer committee, consisting of S. F. Singer, D. F. Ward, and A. W. Erskine, appointed to revise the cancer manual, has completed its work and the manuscript is now in the hands of the publisher. The book has been enlarged. New chapters have been added on Cancer of the Eye, Ear, Thyroid, Salivary Glands, Small Intestine, Brain, and the "Cancer Problem and the Family Doctor." The book is being printed in 10 point type on 60 pound eggshell paper, bound in gray press-board covers, and is 6½ by 9¼ inches in size.

The cost of printing and distributing 5,000 copies will be in excess of \$3,300. However, we expect enough sales to meet the cost of distributing the book to all graduates of our medical school during the next five years, to physicians entering practice in Iowa during the same period, and to physicians who are not members of the Iowa State Medical Society. The cost of printing and distributing the book to the members of the Society will be about \$2,500 and we are asking for an appropriation of this amount.

A. W. Erskine
S. F. Singer
D. F. Ward

Dr. Donald C. Conzett: I *move* that the reports of the Cancer Committee and the Subcommittee be approved and that the Board of Trustees be requested to appropriate \$2,500 to print and distribute revised manuals to all members of the Society.

[The motion was regularly seconded, put to a vote and carried.]

The Speaker: Chairman of the Fracture Committee.

Dr. Carroll O. Adams: No further report. I *move* the adoption of the report as printed in the handbook.

[*The motion was seconded by Dr. Spilman, put to a vote and carried.*]

The Speaker: Historical Committee.

Dr. Walter L. Bierring: The Historical Committee would like to remind the House of Delegates that this Society will come of age in 1950, when it will be 100 years old. It seems fitting that this year the House of Delegates should decide in what way this centennial should be properly observed. There are many ways in which societies have commemorated 100 years of existence, most of them in the form of a memorial volume, either entirely historical for the period covered by the 100 years or endeavoring to bring the history of the Society up to date from the beginning of medical practice in Iowa.

The St. Louis Medical Society ten years ago, when it completed 100 years of organization, published a volume of this character which contained accounts of the prominent men who were associated with the beginning of the society. Of course, they had men like Beaumont and various other distinguished men in the early history of American medicine. They also were a part of a period in which various people were concerned with the development of St. Louis. There were the French, the Spanish, the Americans; it was an interesting period.

The committee has conferred with the editor and his staff and with Dr. Jeannette Throckmorton, the medical librarian. It would like to suggest that this be, to a large extent, a completion of the history of medicine in Iowa which would include, of course, that period before 1850.

The committee would like to suggest that we consider a very interesting volume in the medical history of Iowa by Dr. Fairchild which was issued about twenty-five years ago which brought the history of Iowa up to date. It also has some very interesting articles of that period from 1814 up to 1830, and then from 1830 up to 1850. It would seem fitting to endeavor to preserve those in this new volume.

Then the historical development of medicine in Iowa could be further contained in this volume. It might contain short biographical sketches and photographs of each of the presidents of these 100 years.

The committee therefore would like to have the House of Delegates authorize that additions might be made to this committee as would seem necessary, that a recommendation be made to the Board of Trustees that the expense of the coming year be defrayed, which will not be very large, because it will consist largely of postage, probably expressage of material coming from other libraries, and possibly, also, some stenographic service. Next year, when it has been determined what character this memorial volume is to be and what it is to comprise, then a larger appropriation will have to be requested, but it is hoped that the committee may be authorized to carry on this work and associate with us such additional members and assistants as seem necessary in order to determine the fitting manner in which this centennial may be observed.

I move its adoption.

Dr. P. E. Gardner: Second the motion.

[*The motion was seconded, put to a vote and carried.*]

Dr. R. F. Luse: In adopting this, does that mean the Trustees should put forth the money Dr. Bierring asked for?

The Speaker: No. It is up to the discretion of the Board of Trustees, as I interpret our Constitution. Am I not right?

Dr. Woodward: As I take it, in adopting this motion no specific amount was specified.

Dr. Marker: I don't believe it is necessary to make any motion about it. The Trustees are under no obligation to do it, but I think I can assure you they will, in any reasonable amount.

The Speaker: Committee on Industrial Health.

The Secretary: I have a supplementary report of the Committee on Industrial Health sent in by Dr. Clark Cooper.

The Committee on Industrial Health makes the following recommendations:

1. That the Society urge the College of Medicine of the State University of Iowa to broaden its undergraduate and postgraduate teaching of industrial health;

2. That the Society include in future scientific programs a symposium on industrial health with particular attention to the recent changes in the industrial compensation laws of Iowa;

3. That the Society urge the responsible persons and agencies, both city and state, to appropriate sufficient funds for the maintenance of an efficient department of industrial hygiene in their departments of health;

4. That the Society urge industry to require a pre-employment physical examination including, if possible, an x-ray of the chest; and

5. That the Society recommend to the county medical societies the appointment of committees on industrial health to work with the state committee and when possible to cooperate with the workmen's compensation commission.

The Secretary: I move the adoption of the report as printed in the handbook and the supplementary report.

[*The motion was seconded, put to a vote and carried.*]

The Speaker: Maternal and Child Health, Dr. Farnsworth.

Dr. H. E. Farnsworth: No further report. I move the adoption of the report as shown in the handbook.

[*The motion was seconded, put to a vote and carried.*]

The Speaker: Scientific Exhibits, Dr. Jones. [Absent.]

Speakers Bureau, Dr. Smith.

The Secretary: In the absence of Dr. Smith, I move that the report be adopted as printed in the handbook.

[*The motion was seconded by Dr. Spilman, put to a vote and carried.*]

The Speaker: The Tuberculosis Committee.

The Secretary: In the absence of the Chairman, I *move* that the report of the Tuberculosis Committee be adopted as printed in the handbook.

[*The motion was seconded, put to a vote and carried.*]

The Speaker: We now come to the election of life members.

The Secretary: Mr. President, the following applications for life membership on the basis of fifty years' practice and thirty years' membership have been received and checked for eligibility:

B. F. Gillmor, Red Oak

Alice Stinson, Estherville

Frank A. Ely, Des Moines

George A. Field, Des Moines

Clarence P. Cook, Des Moines

William B. Hight, Des Moines

E. P. Farnum, Sibley

Harry L. Walker, Cedar Rapids

J. H. Chittum, Wapello

Prince E. Sawyer, Sioux City.

Mr. President, I *move* that these applications be fulfilled and these members be elected to life membership.

Dr. Boice: I *second* that motion.

[*The motion was put to a vote and carried.*]

The Secretary: The following applications have been received because of the disability of the physician:

F. S. Williams, Villisca

Velura Powell, Red Oak

Benjamin G. Williams, Oskaloosa

William L. Alcorn, Washington

Edward W. Anderson, Des Moines

W. Eugene Wolcott, Des Moines

Edwin R. Shannon, Waterloo

Percy L. Parsons, Traer.

Mr. President, I *move* that these men be elected to life membership because of disability.

Dr. Boice: I *second* the motion.

[*The motion was put to a vote and carried.*]

The Speaker: Memorials and communications.

The Secretary: There are none.

The Speaker: New business.

Executive Secretary McCord: We have a number of letters here on blood banks, several from the American Association of Blood Banks which is located in Dallas, Texas. We have one from Honolulu which is in opposition to Red Cross blood banks. Looking them over, considering the amount of material that is in them, it seemed to me it might be wise to refer these to a committee which could study them and bring back a recommendation Wednesday morning.

Dr. Downing: I so *move* you.

Dr. Spilman: I *second* the motion.

The Speaker: It has been moved and seconded that a committee be appointed to report back Wednesday on the question of blood banks. Are you ready for the question? All in favor signify by saying "aye"; contrary "no." *The motion is carried.*

Executive Secretary McCord: We have a letter from the U. S. Savings Bond Division of the Treasury Department asking for a speaker before our annual meeting. That was impossible because the program was already full, and the best alternative seemed to be to bring the current Savings Bond campaign to your attention tonight and ask the cooperation and support of the medical profession.

We also have a letter from the Naval Air Reserve Training Command asking us to announce that: "The Naval Air Reserve Training Command, with headquarters at Naval Air Station, Glenview, Illinois, has eighteen nationally located naval air stations and four naval air reserve training units at which naval reserve medical officers may serve on active duty with full pay and allowances and with the privilege of returning to civilian life at any time upon request. Additional details may be obtained from Chief of Naval Air Reserve Training, Naval Air Station, Glenview, Illinois."

If anyone wishes information about that, it will be in the central office.

This next letter is about the Displaced Persons and asks the support of our Society on the Stratton Bill which is endorsed by the Citizens' Committee and over 120 other national organizations. I think most of you know that a survey has been made on this in Iowa and an estimate made of the number of displaced persons which the state could accommodate.

A motion to give our approval to that Stratton Bill could be made, if that is the wish of the assembly.

The Speaker: What is your pleasure, gentlemen?

After discussion, the matter was referred to a committee for study and report.

Executive Secretary McCord: This is a letter addressed to Dr. Spilman:

"The Iowa Anesthesiological Society has directed me as Chairman of its Economics Committee to request that the Iowa State Medical Society appoint a Committee on Anesthesia to consult and advise on the various scientific and economic problems which may arise in that specialty.

"The Iowa Anesthesiological Society was organized and affiliated with the American Society of Anesthesiologists, Inc., in 1942 and has been holding regular meetings ever since. All of its members are members of the Iowa State Medical Society.

"The objectives of the society conform exactly with those you so aptly quoted in your recent address to the State Society. Several communities in the state report anesthetic problems which could best be solved by those persons working in the field. There is a shortage of competent physician anesthesiologists which has resulted in nurses and even lay persons administering potent drugs, with the resultant increased morbidity and mortality rate.

"There is the problem of Blue Cross and Iowa Medical Service fees. There is the problem of bad publicity, such as has been created by magazine

articles giving over-optimistic publicity to various forms of painless childbirth.

"The Iowa Anesthesiological Society believes that many of these problems can be solved with great benefit to all of the people of the state and especially to their fellow physicians in the field of surgery and obstetrics. They further believe their membership includes men well qualified to work on these problems.

"The Anesthesiological Society, therefore, now requests the Iowa State Medical Society to appoint a Committee on Anesthesia to consult on such matters as properly fall in the field of that specialty and to bring to the attention of the House of Delegates the various problems and suggested solutions.

"For your information, several state medical societies have already appointed such committees and two, Ohio and Indiana, have gone further and created sections on anesthesia. Detailed information in this regard may be obtained by writing to John F. Hunt, Executive Secretary, American Society of Anesthesiologists, Inc., Chicago.

(Signed) "L. A. Block, M.D.,
Chairman, Economics Committee."

The Speaker: This looks as if it calls for a special committee, which the Chair will appoint, to report to our meeting Wednesday morning on this question of anesthesia.

On Blood Banks, I will appoint Dr. Birge to work out this problem and report Wednesday morning.

On Displaced Persons, I am going to ask Dr. Morton of Estherville and Dr. Downing of Des Moines to report back Wednesday morning.

On Anesthesia, I will appoint Dr. Lovejoy, and I am going to ask him to select two other members, if he will, and report back Wednesday morning on the request of the anesthetists.

That seems to wind up the agenda of the day except concerning the time of meeting Wednesday morning. What is your pleasure, gentlemen?

Dr. Boice: I move we meet at eight o'clock Wednesday morning.

[The motion was seconded, put to a vote and carried.]

The Speaker: We now adjourn for the election of the Nominating Committee. You will have your caucuses.

[The House proceeded to caucus for the election of the Nominating Committee.]

HOUSE OF DELEGATES

Wednesday Morning, April 21, 1948

The meeting convened at 8:10 a. m., President-elect Reeder presiding as Speaker.

The Speaker: We will now have the roll call by the Secretary, Dr. Parsons.

The Secretary called the roll, with the following persons being present:

DELEGATES

Black Hawk—E. L. Rohlf
Black Hawk—E. E. Magee
Boone—B. T. Whitaker
Buchanan—F. F. Agnew
Buena Vista—H. E. Farnsworth
Calhoun—D. C. Carver
Carroll—T. H. Van Camp
Cass—W. W. Kitson
Cerro Gordo—C. O. Adams
Cherokee—J. H. Wise
Chickasaw—P. E. Gardner
Clarke—C. R. Harken
Clayton—F. E. Braucht
Clinton—R. F. Luse
Dallas-Guthrie—A. G. Felter
Decatur—G. P. Reed
Des Moines—F. G. Ober
Dubuque—D. C. Conzett
Emmet—M. T. Morton
Fayette—M. G. Beddoes
Floyd—O. H. Banton
Fremont—Kenneth Murchison
Iowa—C. F. Watts
Jackson—F. J. Swift
Jefferson—L. D. James
Johnson—S. C. Cullen
Johnson—A. W. Bennett
Keokuk—D. L. Grothaus
Lee—L. C. Pumphrey
Linn—J. C. von Lackum
Linn—C. H. Stark
Mills—D. W. Harman
Mitchell—R. L. Whitley
Monona—E. C. Junger
Monroe—T. A. Moran
Montgomery—Oscar Alden
Muscatine—C. P. Phillips
O'Brien—W. R. Brock
Page—C. H. Flynn
Polk—D. N. Gibson
Polk—M. I. Olsen
Polk—L. F. Hill
Polk—H. J. McCoy
Poweshiek—E. S. Korfmacher
Sac—L. B. Amick
Scott—W. C. Goenne
Scott—George Braunlich
Story—J. E. McFarland
Taylor—G. W. Rimel
Van Buren—L. A. Coffin
Wapello—C. A. Henry
Warren—E. E. Shaw
Woodbury—E. E. Morgan
Wright—R. D. Bernard

ALTERNATES

Adams—C. L. Bain
Appanoose—E. A. Larsen
Jasper—J. W. Billingsley
Louisa—J. H. Chittum
Polk—C. W. Losh
Polk—Fred Sternagel
Union—C. E. Sampson
Washington—M. L. McCreedy
Wayne—J. H. McCall
Webster—J. C. Shrader
Winneshiek—F. A. Hennessy

OFFICERS

President—H. A. Spilman
President-Elect—J. E. Reeder
Secretary—J. C. Parsons
Treasurer—J. A. Downing
Trustee—W. A. Sternberg
Trustee—L. R. Woodward
Councilor—L. L. Carr
Councilor—C. H. Cretzmeyer

Councilor—J. B. Knipe
 Councilor—R. N. Larimer
 Councilor—J. C. Hill
 Councilor—H. A. Housholder
 Councilor—C. A. Boice

The Secretary: Mr. President, I believe there is a quorum present. I find 54 delegates, 11 alternates and 13 officers present.

The Speaker. We will now hear the minutes of our Sunday evening session.

[The Secretary read the minutes of the Sunday evening session.]

The Speaker: We will now have the report of the Nominating Committee.

REPORT OF THE NOMINATING COMMITTEE

The Nominating Committee met in Parlor A at 11:30 a. m. Monday, April 19. Those present were: M. G. Beddoes of Oelwein, C. O. Adams of Mason City, M. T. Morton of Estherville, H. E. Farnsworth of Storm Lake, J. E. McFarland of Ames, E. L. Rohlf of Waterloo, J. K. von Lackum of Cedar Rapids, L. A. Coffin of Farmington, C. A. Henry of Farson, E. E. Shaw of Indianola and L. E. Jensen of Audubon. Dr. Henry was elected chairman and Dr. von Lackum secretary.

The following persons were selected as nominees by the committee:

President-Elect—Dr. N. G. Alcock of Iowa City; Dr. J. A. Downing of Des Moines.

First Vice President—Dr. W. E. Ash of Council Bluffs.

Second Vice President—Dr. C. T. Maxwell of Sioux City.

Secretary—Dr. A. B. Phillips of Des Moines.

Treasurer—Dr. N. Boyd Anderson of Des Moines.

Trustee—Dr. B. T. Whitaker of Boone.

Councilors:

Second District—Dr. C. H. Cretzmeyer of Algona.

Seventh District—Dr. H. A. Housholder of Winthrop.

Ninth District—Dr. E. B. Howell of Ottumwa.

Delegates to the American Medical Association—Dr. T. F. Thornton of Waterloo and Dr. George Braunlich of Davenport.

Alternate Delegates—Dr. D. C. Conzett of Dubuque and Dr. J. E. McFarland of Ames.

Dr. Henry: Mr. Speaker, I *move* the adoption of the report.

[*The motion was seconded, put to a vote and carried.*]

Dr. J. A. Downing. The boys evidently did not believe me when I told them, like Cal Coolidge, I didn't choose to run. I therefore request that my name be withdrawn and the Secretary be instructed to cast the unanimous ballot of the Society for Dr. Alcock for president-elect.

Dr. Woodward: I *second* the motion.

The Speaker: Are there any other nominations from the floor? If not, are you ready for the question? All in favor signify by the usual sign "aye"; contrary "no." *It is carried.*

The Secretary: I hereby cast the ballot of the

House for Dr. Alcock. Are there any other nominations for first vice president? Any nominations for second vice president? Any other nominations for secretary? Any other nominations for treasurer? Are there any other nominations for trustee? Are there any other nominations for councilor from the second district? Dr. Cretzmeyer is named. Are there any other nominations for the councilor from the seventh district? Dr. Housholder is named. Are there any other nominations for councilor from the ninth district? Dr. Howell of Ottumwa is named. Are there other nominations for delegates to the American Medical Association? Doctors Thornton and Braunlich are named. Are there any other nominations for alternate delegates to the American Medical Association? Dr. Conzett and Dr. J. E. McFarland are named.

Mr. President, there seem to be no other nominations than those.

Dr. Boice: I *move* that the secretary be instructed to cast the unanimous ballot for the officers named and to include in that that the meeting place shall be Des Moines for 1949.

Dr. Sternberg: I *second* the motion.

[*The motion was put to a vote and carried.*]

The Speaker: Mr. Secretary, you are so instructed. The meeting place will be Des Moines.

The secretary cast the ballot for the officers nominated.

The Speaker: We will have a report on the blood banks by Dr. Birge.

Dr. R. F. Birge: Mr. Speaker, Members of the House of Delegates: I was asked to peruse certain literature which has come to the State Medical Society concerning blood banks. There were letters from the Honolulu Blood Bank. There was, particularly, correspondence from the American Association of Blood Banks which has its headquarters in Dallas, Texas. This association was organized last year for certain seemingly worthy purposes. Perhaps I might briefly read to you those purposes. The rest of my report will be brief.

The reason for bringing to your attention, particularly, the material from this organization is that it has asked that the Iowa State Medical Society approve its policies and endorse the principles that I will read. I do not propose to recommend such endorsement particularly but I think you should know what those principles are.

In their constitution which has been furnished to the Secretary and the President, they say:

"The purposes of this association shall be:

"1. To promote and foster the exchange of ideas and materials and the dissemination of information relating to blood banking and its technical methodology by education, publicity and research.

"2. To foster and plan for cooperation in times of disaster.

"3. To function as a clearing house on questions relating to the training of personnel common to such institutions.

"4. To keep currently aware of and encourage high standards of service.

"5. To promote and foster and aid and encourage the extension of similar services throughout the United States and its territories."

There is another organization, namely, the American Red Cross, that is interesting itself in blood banking throughout the country. I do not propose at this time to censure the Red Cross and its project. It certainly has worthy motives, but I think I should call to your attention one principle which is a stated written principle being followed by that organization, namely this: that they will furnish blood to anyone who needs blood, regardless of ability to pay. It is not regardless of inability to pay but regardless of ability to pay. It doesn't make any difference if you are a millionaire, they are going to make you accept a blood transfusion without return in pay, and they are going to make the poor guy who paid his \$1 for Red Cross membership pay for the millionaire's transfusion. Yet I am sure that the Red Cross project may do a wonderful amount of good throughout the country.

On the other hand, this Association of Blood Banks is trying to foster the development of blood banks, an improvement of them at the local level, and not interfere with the practice of medicine when it comes to this highly specialized phase of the practice of medicine.

Therefore I wish to read a brief and formal report of this Special Committee on Blood Banking. Unfortunately, I was requested only yesterday to look into this. I consulted with pathologists and others interested in blood banking but was not able to have a formal meeting of a group. So you must take that into consideration in considering my recommendations.

At the request of the House of Delegates of the Iowa State Medical Society, I have perused certain correspondence concerning blood banking.

After study of this material, it would seem worth while that the House of Delegates consider the following resolution:

Resolved: That blood banking is a highly specialized phase of medical practice. Ideally, it is a subspecialty in the field of Pathology, a recognized medical specialty. Therefore, be it further

Resolved: That the Iowa State Medical Society endorse only those projects for promotion of blood banking services which fully accept and recognize that the medical phases of blood banking must be conducted and supervised by licensed practitioners of medicine. Be it further

Resolved: That the Iowa State Medical Society deplore the establishment of blood banks and clinical laboratories in Iowa by agencies or persons not licensed to practice medicine in the State of Iowa.

Dr. Birge: I may say in conclusion that this is offered because I think that the Society must have a policy in anticipation of national organizations which may come in and enter into the practice of medicine at our local levels. Certainly, my personal

attitude is not that necessarily of preventing their coming in, but I want them to come in only if they will do so with the attitude that they are going to assist us in our work in the practice of medicine and not as has been done in Canada, where they have taken over the whole blood banking procedure, including the laboratory and professional phases of it, to the exclusion of the pathologists and others in the community.

Dr. Spilman: I move the adoption of the report.

[The motion was seconded, put to a vote and carried.]

The Speaker: We will have the report of the Committee on Anesthesia, Dr. Lovejoy.

Dr. Lovejoy: At your meeting April 18, I was appointed chairman of a reference committee on anesthesiology to consider a request for a committee on anesthesia. I quote from Dr. Block's letter to Dr. Spilman:

"The Iowa Anesthesiological Society was organized and affiliated with the American Society of Anesthesiologists in 1942 and has been holding regular meetings ever since. All of its members are members of the Iowa State Medical Society."

The Iowa Anesthesiological Society has grown to some 50 members. We do not feel that we have reached the place where we can ask for a section on anesthesiology but we do feel that a committee as suggested could serve the following useful purposes:

1. Various communities in the state report economic as well as scientific problems concerning anesthesia. With the hospital building program planned for the state, these problems are certain to increase. This committee, composed of persons working in that field, could help iron out many of these problems.

2. With the increasing number of lay magazine articles concerning anesthesia, such a committee could offer advice or criticism concerning said articles and thereby give the public more accurate information.

3. As time goes on, there are likely to arise questions concerning Blue Cross and Iowa Medical Service fees. We feel that the proposed committee should have a voice in the discussion relative to the anesthesia fees.

4. We realize that there are not enough competent physician anesthetists to cover the state and that smaller communities must employ nurse technicians. A committee such as we propose could, by working through the physicians of that community, improve the standards of anesthesia. It could give advice concerning the establishment, personnel and maintenance of anesthesia departments in smaller hospitals.

5. Such a committee could act to advantage as a liaison committee between the Iowa State Medical Society and the Iowa Anesthesiological Society.

The Iowa Anesthesiological Society therefore asks for the appointment of a committee on anesthesia by the House of Delegates of the Iowa State Medical Society, such committee to consist of a chairman

and one other member from the Iowa Anesthesiological Society and the third member to be a surgeon interested in improving the standards of anesthesia. As chairman of your reference committee, I move the request be approved.

[The motion was seconded, put to a vote and carried.]

The Speaker: Dr. Morton, will you present the special report on displaced persons?

Dr. Morton: I am not going to waste a lot of time of the House of Delegates over this matter but after hearing Dr. Henderson speak yesterday afternoon, I feel the Iowa State Medical Society should be discreet. Our committee decided the proper way to handle this is not to take official action, but to inform those interested that the matter has been presented to the House of Delegates. We would suggest this be handled by the Public Relations Committee.

I move its adoption.

[The motion was seconded, put to a vote and carried.]

The Secretary: Are Dr. Cullen and Dr. Bennett from Johnson County here?

The Speaker: Will you please bring our new president-elect forward?

[The members arose and applauded as the newly elected preside-elect, Dr. Nathaniel G. Alcock, was escorted to the platform.]

The Speaker: Your new president-elect!

President-elect Alcock: I don't know whether I can say anything or not. I appreciate very, very deeply what you have done and the manner in which you have done it. I understand that I have even carried Maine and Vermont. Apparently I am a bit more popular than the fellow who didn't carry them some years ago.

I have lived with you fellows. I came here when I was a relatively young man, and I have lived with you until I have seen some of you approach a little bit near what we would call old age. I have enjoyed at all times your cooperation with me. Through that cooperation I feel I owe to you much of what little I am, and I say that with the deepest of sincerity.

It has been one of the greatest joys of my life to live with you and to live as a part of you. I want you to know that this is one of the finest things that has come to me. Thank you.

The Speaker: I know how you feel, Dr. Alcock. I believe, Dr. Morgan, you have a report you would like to present.

Dr. E. E. Morgan: Mr. Speaker, this is a copy of a letter that was sent by the Woodbury County Medical Society to our representative in Washington. I will read it:

"Whereas, There is now a contemplated expansion of the armed forces of our country; and

"Whereas, It is rumored there may be special legislation drafting doctors of medicine; and

"Whereas, It would be helpful to know along

what lines this procurement of medical officers will take place; now therefore, be it

"Resolved, That the doctors of Woodbury County, Iowa, ask that it follow somewhat the following lines;

"First, voluntary enlistment;

"Second, those doctors who received part or all of their education at government expense;

"Third, those doctors physically qualified who did not see service in World War II;

"Fourth, if necessary to recall former medical officers, priority of call should be given to those doctors with the least amount of service; and

"Fifth, reserve commissions should not be a factor because almost all of the doctors in this category have seen or have had extensive military service. And be it

"Further Resolved, That copies of this resolution be transmitted to the chairmen of the respective committees in the House and Senate in Washington and to the members of the Iowa Congressional delegation."

Dr. H. E. Farnsworth: Mr. Chairman, I move the adoption of this.

Dr. R. D. Bernard: I would like to *second* it and make a couple of remarks. When you accept the resolution, remember that you cannot go out and pick up a fellow who did not serve in World War II except by draft. That idea is not original with me; it comes from Dr. Henderson. If you vote yes for this, you will be endorsing a draft of some type in order to pick up the men who were not in World War II.

Hearings will start on these two bills Friday morning in Washington. Dr. Sensenich and Dr. Henderson will both be there. If these bills with their draft clauses pass, you may say the medical profession was and is not in favor of the draft, but we are voting for one in this resolution. I am not opposing this one way or another; I think it is darn good; but don't be confused about what you're voting for.

Dr. C. O. Adams: There is one thing way down on the list of priority. There is no mention of age. As a result, the men going to be picked are of necessity going to be of the older age group. I know from experience, if you get the older men in, they are not as adaptable and not as useful in army service as the younger men are.

I think that is a point, also, to be considered.

Dr. D. N. Gibson: I wonder if No. 5, concerning reserve officers, could be read again. I did not quite understand it.

The Speaker: "Reserve commissions should not be a factor because almost all of the doctors in this category have seen or have had extensive military service."

Dr. Gibson: That is rather ambiguous.

Dr. E. E. Shaw: On the basis of what Dr. Bernard said, I do not think any of us want to recommend a draft of medical officers. There was a question raised, when some of us were discussing the

bills, of whether or not they could be legally opposed, maybe carried to the Supreme Court, on the basis that they are class legislation. It seems to me, if we recommend this kind of thing, or approve it, we should definitely state that we are not in favor of a draft of doctors, but if there has to be one, this is the order in which they should be taken.

Dr. Bernard: I think Dr. Shaw expressed exactly the idea of this resolution. Dr. Henderson told me last night that the chief argument against this is going to be on class legislation and the age, but they are going to talk class legislation until they see if they can eliminate it.

Dr. Sternberg: It does not seem to me that we are ready to go on record in regard to this matter at the present time. Therefore, I *move* that it be laid on the table indefinitely.

Dr. E. C. Junger: I *second* the motion.

The Speaker: It has been moved and seconded that this matter be tabled.

Dr. Morgan: Mr. Speaker, may I read the first four lines of this, and give you a little better idea?

"In view of the contemplated expansion of the armed forces, the doctors of Woodbury County would like to have you obtain a statement of policy from the War Department as to how medical officers will be procured."

The Speaker: That isn't in the resolution here. That is just a statement you made to clarify your proposed resolution. Is that the idea?

Dr. Morgan: Yes.

The Speaker: Gentlemen, there is a precedent motion before the House, and that is to table the motion. It has been seconded. Ready for the question? Those in favor give the sign "aye"; contrary "no." The "ayes" have it. *The motion is carried.*

Dr. E. S. Korfmacher: I wonder if we couldn't have a standing vote on it.

The Secretary: All those in favor of tabling the original motion will please stand. Those against the motion will please stand. *The motion is carried 40 to 26.* The resolution is tabled.

The Speaker: Dr. Sternagel!

Dr. Fred Sternagel: Mr. President, Members of the House of Delegates: I have been requested to get up here and say a few words to you today concerning the Committee on Medical Service and Public Relations.

Four years ago this House created that committee, and since that time we have been concerned with the evergrowing socio-economic problems that concern the practice of medicine.

Among these problems have been those of national medical legislation, farmers' problems concerning medical care, medical service or insurance, old age pensions, aid to the blind and to dependent children, more recently public health problems, and those problems confronting the general practitioner, to say nothing of a host of other things—and you dumped one in our lap this morning—that are growing every day and are of vital importance not

only to the present practice of medicine but to its future.

In conducting our work, we have had the splendid advice of other states throughout the nation, but we felt right along that much of this information is not reaching you men throughout the state, that many of you do not realize that there is such a committee, what its functions are, or what it is trying to do. This is not your fault.

From time to time we have publicized our activities in the Journal and through bulletins, but I know how busy all of you are; you haven't time to read these things.

To overcome this difficulty, we have secured the services of an experienced field secretary who has been working for us now for the past two months, trying to get a line on our problems here in the central office so that he can go out and visit with you men and talk to you, not only to present our side of the problem as he talks to you, but to bring back to us your reactions and your problems in your various communities. He has already been out in the field to some extent, and we hope we can get him out oftener in the future. We are sincerely hoping that every one of you men will feel free to call on him any time you want him to attend your meetings and explain the many problems that we have, and particularly to bring back to us your suggestions and your problems.

At this time I would like to say that it would facilitate his work greatly if each one of you, as you go back to your county societies, would see that some man is designated as your public relations man so that he would have someone in that county to contact.

You can appoint the president, secretary or someone else as public relations man, but it should be someone who is interested in these things.

At this time it is my great pleasure to introduce this man to you, and I am going to ask him to say a few words, so that you can look him over and know him the next time you see him.

At this time I would like to introduce Mr. Don Taylor, our new field secretary.

Mr. Don Taylor: Thank you, Dr. Sternagel. Dr. Reeder, Dr. Alcock, Officers and Members of the House of Delegates: First I want to thank you for the opportunity of sitting in on your meeting of the House of Delegates. It gives me an opportunity to realize the functions of the State Society. I have been with the organization only a short time, and I am definitely attempting to retain as much information as I have access to.

I have, in the last two months, visited a number of the counties in the state, and I have become acquainted with a number of the officers and members of the county societies. However, I would like very much within the next year to pay a visit to every county society in Iowa. This can only be done by an invitation from you. So, I would at this time like to ask the doctors of the county societies to give a little consideration to my job, and possibly you can

see your way clear to afford me an opportunity to come to your county and visit with you doctors as individuals and to attend your county meetings.

Thank you very much.

The Speaker: We will now have the secretary read the committee appointments.

The Secretary: The following appointments have been made by the president for committees for the coming year:

IOWA STATE MEDICAL SOCIETY COMMITTEES—1948-1949

STANDING COMMITTEES

CONSTITUTION AND BY-LAWS

John H. Henkin.....	Sioux City
John D. Conner.....	Nevada
Don F. Rodawig.....	Spirit Lake

FINANCE

E. C. McClure.....	Bussey
A. S. Bowers.....	Orient
A. J. Gantz.....	Greenfield

LEGISLATIVE

J. W. Billingsley.....	Newton
L. A. Coffin.....	Farlington
C. W. Losh.....	Des Moines

MEDICOLEGAL

G. C. Albright (3 years).....	Iowa City
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MEDICAL EDUCATION AND HOSPITALS

G. H. Scanlon.....	Iowa City
J. F. Treynor.....	Council Bluffs
R. F. Birge.....	Des Moines

MEDICAL SERVICE AND PUBLIC RELATIONS

Fred Sternagel.....	West Des Moines
Martin I. Olsen.....	Des Moines
R. D. Bernard.....	Clarion
C. T. Maxwell.....	Sioux City
R. C. Gutch.....	Chariton
D. C. Konzett.....	Dubuque
E. E. Shaw.....	Indianola
H. E. Stroy.....	Osceola
C. A. Nicoll.....	Panora

SPECIAL COMMITTEES

BALDRIDGE-BEYE MEMORIAL

J. W. Agnew, Chairman.....	Davenport
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CANCER

F. H. Beaumont.....	Council Bluffs
D. F. Ward.....	Dubuque
E. D. Plass.....	Iowa City
A. W. Erskine.....	Cedar Rapids
E. G. Zimmerer.....	Des Moines
H. W. Morgan.....	Mason City
V. W. Petersen.....	Clinton
W. J. Balzer.....	Davenport
S. F. Singer.....	Ottumwa
A. L. Jenks, Jr.....	Des Moines

FRACTURE

C. O. Adams.....	Mason City
F. L. Knowles.....	Fort Dodge
F. G. Ober.....	Burlington
L. R. Martin.....	Council Bluffs
L. J. Miltner.....	Davenport
E. B. Hoeven.....	Ottumwa
D. N. Gibson.....	Des Moines

HISTORICAL

W. L. Bierring.....	Des Moines
Jeannette Dean-Throckmorton.....	Des Moines
C. A. Henry.....	Farson
C. L. Jones.....	Gilmore City
L. C. Kern.....	Waverly
J. T. McClintock.....	Iowa City
E. M. George.....	Des Moines

INDUSTRIAL HEALTH

Clark N. Cooper.....	Waterloo
C. B. Meffert.....	Cedar Rapids
G. M. Crabb.....	Mason City
S. F. Smazal.....	Davenport

MATERNAL AND CHILD HEALTH

H. A. Weis.....	Davenport
H. E. Farnsworth.....	Storm Lake
R. H. McBride.....	Sioux City
L. F. Hill.....	Des Moines
C. P. Phillips.....	Muscatine
J. F. Gerken.....	Waterloo
R. M. Collins.....	Council Bluffs
R. O. Hughes.....	Ottumwa

NATIONAL EMERGENCY MEDICAL SERVICE

R. D. Bernard.....	Clarion
E. L. Rohlf, Jr.....	Waterloo
D. C. Konzett.....	Dubuque
E. S. Korfmacher.....	Grinnell

SCIENTIFIC EXHIBITS

C. C. Jones.....	Des Moines
F. C. Coleman.....	Des Moines
J. K. Stewart.....	Clinton
W. H. Gibbon.....	Sioux City

SPEAKERS BUREAU

Herman J. Smith.....	Des Moines
John I. Marker.....	Davenport
Horace M. Korn.....	Dubuque
Robert N. Larimer.....	Sioux City
Tom D. Throckmorton.....	Des Moines
D. O. Bovenmyer.....	Ottumwa

TUBERCULOSIS

R. J. Harrington.....	Sioux City
John C. Parsons.....	Des Moines
J. Carl Painter.....	Dubuque
Leon J. Galinsky.....	Des Moines
R. E. Smiley.....	Mason City
Wm. Spear.....	Oakdale
D. R. Webb.....	Cedar Rapids

[The appointments were approved by the House of Delegates.]

Dr. J. E. McFarland: Is new business still in order?

The Speaker: Yes.

Dr. McFarland: I think it is a definite mistake to table the resolution on draft legislation without doing anything else. The resolution might well have been tabled because its wording may be injudicious, but I think we would be very careless if we left that very important matter hanging fire.

I think this body should have a committee, or should advise some already existing committee, to keep the members of the profession alerted as to what is happening in regard to the possibility of a draft of physicians, and to cooperate with other societies in trying to modify that sort of legislation.

The Speaker: I think if further study is necessary, a meeting of the Executive Council could be called later. The Chair will refer this to the Committee on Medical Service and Public Relations. Dr. Bernard, I think, is chairman of national legislation in that committee.

Dr. Shaw: You have referred that to the Committee on Medical Service and Public Relations, and it already has plenty to do. It seems to me this is a special affair. For a good many years, the Society had a Committee on Military Affairs, which died out between the last two wars. Since war seems to be in the offing continuously I would like to see this Society have a more or less permanent committee on the subject, and let men who have nothing else to do study it.

The Speaker: Since Dr. Bernard is so familiar with national legislation, Dr. Shaw, I naturally thought of him. I believe we can let that stand until there has been a little further investigation. Then, if necessary, that special committee can be appointed at any time for further study.

Dr. Bernard: I wonder if I might clarify my attitude. I am for this resolution and have been, but because of the way it is worded, it is debatable whether or not we will be voting for the thing the armed services want. I think we should do something to see that the doctors who have put in three, four or five years of service are not called back into service. Some of them got a start in private practice before the war, stayed in the army four or five years, and are now getting back into practice and will have to go back into service.

From what Dr. Henderson told me, all these arguments are going to be presented Friday or Saturday to the committees that are working on this problem. I feel reasonably sure the American Medical Association will present our side of the case. If it fails we could call the Executive Council together for further discussions.

The Speaker: That is what I had in mind. Is that satisfactory to you, Dr. Shaw?

Dr. Shaw: Yes.

Dr. L. D. James: I feel that all men within the draft age, medical or otherwise, should be called provided they have not had previous service. You all saw some doctors who could have served who stayed at home. A doctor isn't any better than anyone else when his country is at stake.

I think a Committee on Military Affairs is very important at the present time, and I am afraid it is going to be for some time yet.

Dr. C. L. Bain: I feel as Dr. McFarland does, that this is a burning question to all of the men who have their finger in it. I feel it should receive the attention of a committee within the very near future, so as to clarify the Society's opinion in regard to it, in order that our representatives down in Washington will know how we feel about it.

Dr. E. L. Rohlf: I think if we can believe the word of Dr. Henderson we are going to have conscription the first of July. You talk about the draft. The only way they are going to get the doctors is by draft. There are a lot of us who are pretty concerned with how the draft is run. I agree with Dr. McFarland and the other gentlemen that we ought to do something about it, and do it right now, because it is a burning question.

Dr. R. N. Larimer: I move the reconsideration of the resolution.

[*The motion was seconded.*]

The Speaker: There is a motion before the House for reconsideration of the resolution brought in by Woodbury County.

Dr. Swift: It takes two-thirds to reconsider.

The Speaker: Are you ready for the question? We had better have a standing vote. All in favor of the reconsideration please rise [41]; those against reconsideration [17].

The Secretary: Mr. President, that is better than a two-thirds vote to reconsider.

The Speaker: The way is now open to reconsider the original motion. You are all familiar with it. It is now open for discussion.

Dr. McFarland: Could we have the resolution re-read carefully, for the benefit of everyone?

The Secretary: Do you want your preliminary statement in there, in front of that resolution, Dr. Morgan? Do you want it as part of the resolution, or just the resolution as stated here?

Dr. Morgan: I imagine it would be best to put that in as part of the resolution.

The Secretary: Then you would not be reconsidering the original motion, but a different motion.

Dr. Morgan: "Now, therefore, be it *resolved*, That the doctors of Woodbury County, Iowa, ask that it follow somewhat the following lines:

"First, voluntary enlistment;

"Second, those doctors who received part or all of their education at government expense;

"Third, those doctors physically qualified who did not see service in World War II;

"Fourth, if necessary to recall former medical officers, priority of call should be given to those doctors with the least amount of service; and

"Fifth, reserve commissions should not be a factor because almost all of the doctors in this category have seen or have had extensive military service. And be it

"*Further Resolved*, That copies of this resolution be transmitted to the chairmen of the respective

committees in the House and Senate in Washington and to the members of the Iowa Congressional delegation."

Dr. Bernard: Will you read the first part of it?

[The Speaker re-read the resolution in its entirety, with the following interpolation preceding, "Fourth, if necessary to recall former medical officers," etc.:

I understand there are about 2,000 men like that.]

The Speaker: Gentlemen, in order to dispose of this, we suggested it be turned over to the National Legislation Committee of which Dr. Bernard is chairman. How would it be to have some of you who are of military age and have been in the service, who are probably potential draftees, appointed to serve with Dr. Bernard as a committee? After you consider this thoroughly, if the Chairman, Dr. Bernard, feels we should call an Executive Council meeting in order to authorize the final findings, we will do so.

The floor is now open to you gentlemen to select the men to work with Dr. Bernard. Will that not solve the problem about as quickly as any procedure?

Dr. Conzett: Mr. Chairman, two weeks ago I represented the State Society in a meeting in Chicago of the Committee on National Emergency Medical Affairs which was concerned primarily with this problem. The deputies from the three surgeons general, army, navy and air corps, were there, as well as the man heading the selective service, Colonel Eanes.

The consensus of that meeting was that a draft is going to occur, but the most important statement with which we are concerned this morning is the statement made by Admiral Wilcutts of the navy, who said no reserve officer, either army or navy, would be recalled other than fifteen days a year without a proclamation of emergency by the President or else by congressional action.

I think those of us who are concerned about being reserve officers need have no fear at the present time that we can be recalled, which leads me to the point that this resolution, to me, looks all right except for

the fifth paragraph, which is a bit contradictory. A reserve officer cannot stand up and say he doesn't want to go; maybe he doesn't, but, being a reserve officer, he can't very well rule himself out by resolution.

I would like to see the Woodbury group resubmit their resolution, deleting that fifth paragraph.

Dr. Morgan: We will be glad to expedite the matter by removing that fifth resolution. I so move.

Dr. Larimer: I second the motion.

The Speaker: You have heard the motion. Ready for the question?

[The question was called for, put to a vote and carried.]

The Speaker. Dr. Rohlf, do you have anyone you would like to suggest be appointed on this committee? I think you should serve, and I will appoint you right now. Do you have anybody else to serve with Dr. Bernard? Let's have some volunteers.

Dr. McFarland: I would like to nominate Dr. Korfmacher.

Dr. Rohlf: I would like to see Dr. Conzett on that committee.

The Speaker: Very well. That is three. Do you suggest anyone else? I think we can close the discussion by appointing the men whose names have been suggested from the floor—Dr. Rohlf, Dr. Conzett and Dr. Korfmacher, to serve with Dr. Bernard.

Dr. Brock: It is apparent that the navy phase has been neglected so far in this convention.

The Speaker: I don't think so. I think this whole thing comes under the draft; it covers the navy as well as the army.

I think to conform with the American Medical Association we should name the committee the "Committee on National Emergency Medical Service." These four men shall serve.

The Speaker: I will entertain a motion to adjourn.

Dr. Gardner: I move we adjourn.

Dr. Boice: I second the motion.

[The motion was put to a vote. The meeting adjourned at 9:20 p. m.]

IOWA STATE MEDICAL SOCIETY

Officers and Committees, 1948-1949

President.....James E. Reeder, Sioux City
President-Elect.....Nathaniel G. Alcock, Iowa City
First Vice President.....William E. Ash, Council Bluffs
Second Vice President.....Charles T. Maxwell, Sioux City
Secretary.....Allan B. Phillips, Des Moines
Treasurer.....N. Boyd Anderson, Des Moines

COUNCILORS	Term Expires
First District—Leslie L. Carr, West Union.....	1952
Second District—Charles H. Cretzmeyer, Algona.....	1953
Third District—James B. Knipe, Armstrong.....	1949
Fourth District—Robert N. Larimer, Sioux City, Secretary.....	1950
Fifth District—Edward F. Beeh, Fort Dodge.....	1951
Sixth District—James C. Hill, Newton.....	1952
Seventh District—Harold A. Housholder, Winthrop.....	1953
Eighth District—Clyde A. Boice, Washington, Chairman.....	1949
Ninth District—Elias B. Howell, Ottumwa.....	1950
Tenth District—James G. Macrae, Creston.....	1951
Eleventh District—William S. Reiley, Red Oak.....	1952

TRUSTEES	
Lee R. Woodward, Mason City.....	1949
Walter A. Sternberg, Mount Pleasant, Chairman.....	1950
Ben T. Whitaker, Boone.....	1951

DELEGATES TO A. M. A.	
Thomas F. Thornton, Waterloo.....	1950
George Braunlich, Davenport.....	1950
Gerald V. Caughlan, Council Bluffs.....	1949

ALTERNATE DELEGATES TO A. M. A.	
Donald C. Konzett, Dubuque.....	1950
Julian E. McFarland, Ames.....	1950
Ernest E. Shaw, Indianola.....	1949

EXECUTIVE COUNCIL	
James E. Reeder, Chairman.....	Sioux City
Nathaniel G. Alcock.....	Iowa City
Allan B. Phillips.....	Des Moines
N. Boyd Anderson.....	Des Moines
Lee R. Woodward.....	Mason City
Walter A. Sternberg.....	Mount Pleasant
Ben T. Whitaker.....	Boone
Leslie L. Carr.....	West Union
Charles H. Cretzmeyer.....	Algona
James B. Knipe.....	Armstrong
Robert N. Larimer.....	Sioux City
Edward F. Beeh.....	Fort Dodge
James C. Hill.....	Newton
Harold A. Housholder.....	Winthrop
Clyde A. Boice.....	Washington
Elias B. Howell.....	Ottumwa
James G. Macrae.....	Creston
William S. Reiley.....	Red Oak

THE JOURNAL	
Everett M. George, Editor.....	Des Moines

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James E. Reeder, Chairman.....	Sioux City
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N. Boyd Anderson.....	Des Moines

COMMITTEE ON CONSTITUTION AND BY-LAWS	
John H. Henkin, Chairman.....	Sioux City
John D. Conner.....	Nevada
Don F. Rodawig.....	Spirit Lake

FINANCE COMMITTEE	
Ernest C. McClure, Chairman.....	Bussey
Arthur S. Bowers.....	Orient
A. Jay Gantz.....	Greenfield

LEGISLATIVE COMMITTEE	
John W. Billingsley, Chairman.....	Newton
Lonnie A. Coffin.....	Farmington
Clifford W. Losh.....	Des Moines
James E. Reeder.....	Sioux City
Allan B. Phillips.....	Des Moines

COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS	
George H. Scanlon, Chairman.....	Iowa City
Jack V. Treynor.....	Council Bluffs
Richard F. Birge.....	Des Moines

MEDICOLEGAL COMMITTEE	
Frank A. Ely, Des Moines, Chairman.....	1950
George C. Albright, Iowa City.....	1951
Loren K. Meredith, Des Moines.....	1949

COMMITTEE ON MEDICAL SERVICE AND PUBLIC RELATIONS

Fred Sternagel, Chairman.....West Des Moines
 Martin I. Olsen.....Des Moines
 Ransom D. Bernard.....Clarion
 Charles T. Maxwell.....Sioux City

Roy C. Gutch.....Chariton
 Donald C. Conzett.....Dubuque
 Ernest E. Shaw.....Indianola
 Herbert E. Stroy.....Osceola
 Charles A. Nicoll.....Panora

Special Committees of the House of Delegates

BALDRIDGE-BEYE MEMORIAL COMMITTEE

James W. Agnew, Chairman.....Davenport
 Willis M. Fowler.....Iowa City
 Emory D. Warner.....Iowa City

CANCER COMMITTEE

Fred H. Beaumont, Chairman.....Council Bluffs
 Donovan F. Ward.....Dubuque
 Everett D. Plass.....Iowa City
 Arthur W. Erskine.....Cedar Rapids
 Edmund G. Zimmerer.....Des Moines
 Harold W. Morgan.....Mason City
 Vernon W. Petersen.....Clinton
 Walter J. Balzer.....Davenport
 Siegmund F. Singer.....Ottumwa
 Alonzo L. Jenks, Jr.....Des Moines

FRACTURE COMMITTEE

Carroll O. Adams, Chairman.....Mason City
 Fred L. Knowles.....Fort Dodge
 Frank G. Ober.....Burlington
 Lee R. Martin.....Council Bluffs
 Leo J. Miltner.....Davenport
 Edward B. Hoeven.....Ottumwa
 Douglas N. Gibson.....Des Moines

HISTORICAL COMMITTEE

Walter L. Bierring, Chairman.....Des Moines
 Jeannette Dean-Throckmorton.....Des Moines
 Clyde A. Henry.....Farson
 Charles L. Jones.....Gilmore City
 Lester C. Kern.....Waverly
 John T. McClintock.....Iowa City
 Everett M. George.....Des Moines

COMMITTEE ON INDUSTRIAL HEALTH

Clark N. Cooper, Chairman.....Waterloo
 Clyde B. Meffert.....Cedar Rapids
 George M. Crabb.....Mason City
 Stanley F. Smazal.....Davenport

COMMITTEE ON MATERNAL AND CHILD HEALTH

Howard A. Weis, Chairman.....Davenport
 Harold E. Farnsworth.....Storm Lake
 Robert H. McBride.....Sioux City
 Lee F. Hill.....Des Moines
 Clarence P. Phillips.....Muscatine
 J. Fred Gerken.....Waterloo
 Robert M. Collins.....Council Bluffs
 Robert O. Hughes.....Ottumwa

COMMITTEE ON NATIONAL EMERGENCY MEDICAL SERVICE

Ransom D. Bernard, Chairman.....Clarion
 Edward L. Rohlf, Jr.....Waterloo
 Donald C. Conzett.....Dubuque
 Edwin S. Korfmacher.....Grinnell

COMMITTEE ON SCIENTIFIC EXHIBITS

Cecil C. Jones, Chairman.....Des Moines
 Francis C. Coleman.....Des Moines
 John K. Stewart.....Clinton
 William H. Gibbon.....Sioux City

SPEAKERS BUREAU COMMITTEE

Herman J. Smith, Chairman.....Des Moines
 John I. Marker.....Davenport
 Horace M. Korns.....Dubuque
 Robert N. Larimer.....Sioux City
 Tom D. Throckmorton.....Des Moines
 DeVoe O. Bovenmyer.....Ottumwa

TUBERCULOSIS COMMITTEE

Raymond J. Harrington, Chairman.....Sioux City
 John C. Parsons.....Des Moines
 J. Carl Painter.....Dubuque
 Leon J. Galinsky.....Des Moines
 Ralph E. Smiley.....Mason City
 William Spear.....Oakdale
 Daniel R. Webb.....Cedar Rapids

MEMBERSHIP ROSTER
of the
IOWA STATE MEDICAL
SOCIETY
1948



Members in Good Standing
as of
June 21, 1948

- Aagesen, Carl A., Dows
 Abbott, Walter D., Des Moines
 *Abegg, Henry H., Dougherty
 Acher, Albert E., Fort Dodge
 Acker, Wesley H., Waterloo
 Ackerman, Emma M., Sioux City
 Adair, Gael M., Anita
 Adams, Carroll O., Mason City
 Adams, Ernest M., Central City (L.M.)
 Adams, Leon P., Newton
 Ady, Albert E., West Liberty
 Aeilts, Erko S., Sibley
 Agnew, Fred F., Independence
 Agnew, James W., Davenport
 Ahl, Carl W., Cresco
 Ahmann, Edward J., Walcott
 Ahrens, Lewis H., Fontanelle
 Aid, Francis H., Burlington
 Albright, George C., Iowa City
 Alcock, Nathaniel G., Iowa City
 Alcorn, William L., Washington (L.M.)
 Alden, Oscar, Red Oak
 Aldrich, J. Frank, Clarinda (L.M.)
 Aleshire, Irma, Cedar Rapids
 Alftine, David C., Muscatine
 Allen, James H., Iowa City
 Allen, Roy J., Sumner
 Alliband, George A., Atlantic
 Allison, Monroe P., Northwood
 Almqvist, Reuben E., Albert City
 Ambery, Sebastian, Keokuk
 Amdor, William F., Glendale, California (L.M.)
 Amesbury, Harry A., Clinton
 Amick, Louis B., Sac City
 Amick, Perry P., Des Moines
 Amle, Paul J., Waverly
 Andersen, Bruce V., Greene
 Andersen, Holger M., Strawberry Point
 Anderson, Edward W., Des Moines (L.M.)
 Anderson, Frank J., Rolfe
 Anderson, Glenn J., Winterset
 Anderson, Harold N., Des Moines
 Anderson, Harry N., Woodbine
 Anderson, J. Donald, Des Moines
 Anderson, N. Boyd, Des Moines
 Anderson, Robert E., Chariton
 Anderson, Stanley N., Onawa
 Andre, Gaylord R., Lisbon
 Andrew, Earl V., Maquoketa
 Angell, Charles A., Des Moines
 Anneberg, A. Reas, Carroll
 Anneberg, Paul D., Carroll
 Anneberg, Walter A., Carroll
 Anrode, Ralph A., Davenport
 Anspach, Ellen E. F., Mitchellville
 Anspach, Royal G., Colfax
 Anspach, Royal S., Mitchellville
 Anthony, Walter E., Ottumwa
 Arent, Asa S., Humboldt
 Arent, Asaph, Humboldt (L.M.)
 Arkin, Archie A., Des Moines
 Armstrong, Frederick C., Cascade
 Armstrong, Max A., Newell
 Armstrong, Robert B., Ida Grove
 Armstrong, William B., Ames
 Arnold, Keith E., Sioux City
 Arthur, William R., Hampton
 Artis, G. Hubert, Hollywood, Calif.
 Ash, William E., Council Bluffs
 Ashby, Atchison A., Sioux City (L.M.)
 Ashline, George H., Keokuk
 Asthalter, Robert W., Muscatine
 Ayers, Emmet V., Charles City
 Ayers, LeRoy J., Sioux City
 Bacon, Joshua E., Dubuque
 Bain, C. Lorimer, Corning
 Bairnson, George A., Cedar Falls
 Baker, Charles J., Fort Dodge
 Baker, Walter E., Des Moines
 Baldwin, Leon A., Riverton
 Balkema, Walter S., Sheldon
 Baltzell, Winston C., Charles City
 Balzer, Walter J., Davenport
 Bannister, Murdock, Ottumwa (L.M.)
 Banton, Oscar H., Charles City
 Barber, Oliver S., Creston
 Barbieri, Angelo B., Garwin
 Barbour, Howard W., Mason City
 Barg, Egmont H., Mason City
 Barnes, Bernard C., Des Moines
 Barnes, Milford E., Iowa City
 Barnett, Reu L., Atlantic
 Barnett, Sylvester W., Cedar Falls
 Barr, Guy E., Sioux City
 Barrent, Milton E., Iowa City
 Barrett, James W., Independence
 Barrett, Sterling A., Waterloo
 Bartels, Dorothy, Iowa City
 Bartlett, George E., New Sharon
 Barton, Edwin G., Ottumwa
 Barton, Robert L., Dubuque
 Bartruff, Charles H., Reinbeck
 Bascom, Lewis A., Nora Springs
 Basinger, Byron L., Goldfield
 Bastron, Harold C., Red Oak
 Bates, Maurice T., Des Moines
 Bates, William R., Fort Dodge (L.M.)
 Baumann, James G., Charles City
 Baumeister, Charles F., Avoca
 Bausch, Richard G., Cedar Rapids
 Bay, Frank N., Albia
 Beal, Arline M., Davenport
 Beam, Watson W., Rolfe (L.M.)
 Beardsley, David E., Cedar Rapids
 Beardsley, Ralph W., Livermore
 Beatty, Alexander S., Creston
 Beatty, Edward D., Mallard (L.M.)
 Beatty, Howard G., Creston
 Beaumont, Fred H., Council Bluffs
 Beckman, Charles W., Kalona
 Beckman, Peter W., Perry
 Beddoes, Morris G., Oelwein
 Beebe, John R., Mount Pleasant
 Beeh, Edward F., Fort Dodge
 Bees, Louis E., Bennett
 Behrens, George W., Eldridge
 Bell, Edward P., Pleasantville (L.M.)
 Bell, Robert S., Iowa City
 Bellinger, Frank E., Council Bluffs
 Bender, Henry A., Waterloo
 Bendixen, Frederick C., LeMars
 Benfer, Merrill M., Davenport
 Bennett, Andrew W., Iowa City
 Bennett, Chester G., Iowa City
 Bennett, Geoffrey W., Oskaloosa
 Bennett, Howard A., Oklahoma City, Oklahoma
 Berger, Raymond A., Davenport
 Bergstrom, Albin C., Missouri Valley
 Berkstresser, Charles F., Sioux City
 Bernard, Ransom D., Clarion
 Berney, Paul W., Cedar Rapids
 Bessmer, William G., Davenport
 Best, Gordon N., Council Bluffs
 Bettler, Philip L., Sioux City
 Bezman, Harry S., Traer
 Bickert, J. Norman, Cedar Rapids
 Bickley, Donald W., Waterloo
 Bickley, G. G., Jr., Waterloo (L.M.)
 Bickley, John W., Waterloo
 Biebesheimer, George A., Reinbeck
 Bierring, Walter L., Des Moines (L.M.)
 Biersborn, Byron M., State Center
 Bigelow, Charles T., Clinton
 Billingsley, John W., Newton
 Binford, William S., Davenport
 Bird, Raymond G., Clarion
 Birge, Richard F., Des Moines
 Birney, Cleanthus E., Estherville (L.M.)
 Bisgard, Carl V., Harlan
 Bishop, James F., Davenport
 Black, Harold C., Des Moines
 Black, John R., Jefferson
 Blackburn, Guy R., Fort Madison
 Blackstone, Martin A., Sioux City
 Blaha, George A., Whitten
 Blanchard, Russell W., Council Bluffs
 Blenderman, Albert D., Paullina
 Bliss, William R., Ames
 Block, Charles E., Davenport
 Block, Lawrence A., Davenport
 Block, Walter M., Cedar Rapids
 Blome, Arthur L., Ottumwa
 Blome, Glenn C., Ottumwa
 Blong, Theodore E., Stacville
 Blum, Aloysius A., Wall Lake
 Blum, Otto S., Waverly
 Blume, Donald B., Sioux City
 Blume, Winfred R., Sioux City
 Blumgren, John E., Vinton
 *Bockoven, William A., Cresco
 Boden, Herbert N., Osceola
 Boden, Worthey C., Knoxville
 Boe, Henry, Sioux City
 Boes, Frederick, Davenport
 Bogle, Warren C., Center Point
 Boice, Clyde A., Washington
 Boiler, William F., Iowa City
 Bolker, Norman, Iowa City
 Boller, Galen C., Calmar
 Bond, Thomas A., Des Moines
 Bond, Thomas P., Des Moines (L.M.)
 Bone, Harold C., Des Moines
 Bonnell, Frank S., Fairfield
 Borgen, Donald L., Gowrie
 Borre, Helge, Red Oak
 Borts, Irving H., Iowa City
 Bos, Cornelius N., Oskaloosa
 Bos, Howard C., Oskaloosa
 Bosch, Calvin C. F., Sibley
 Bossingham, Earl N., Clarinda
 Bossingham, Ottmer N., Clarinda
 Boston, Burr C., Waterloo
 Boulware, Lois, Iowa City
 Bourke, William W., Knoxville
 Bourne, Melvin G., Algona
 Bovenmyer, DeVoe O., Ottumwa
 Bowen, Frederick S., Woodburn
 Bowers, Arthur S., Orient
 Bowers, Bert A., Sioux City
 Bowers, Clifford V., Sioux City
 Bowers, Henry W., Nevada
 Bowle, Louis L., Marshalltown
 Bowman, Fred A., Leon (L.M.)
 Bowser, William F., Davenport
 Boyd, Eugene J., Iowa City
 Boyd, Frank E., Colfax
 Boyd, Julian D., Iowa City
 Boyer, Edward H., Mason City
 Boyer, Howard C., Council Bluffs (L.M.)
 Boyer, Ulysses S., Davenport
 Bradford, Clyde R., Des Moines
 Bradley, Carl L., Newhall
 Braucht, Frederick E., Elkader
 Braunlich, George, Davenport
 Brecher, Paul W., Storm Lake
 Breton, Harold L., Emmetsburg
 Brewster, Calvin O., Britt
 Bridgeman, Harry L., Knoxville (L.M.)
 Bries, Frank J., North Buena Vista
 Brink, Raymond J., Ayrshire
 Brinker, Marion H., Jefferson
 Brinkman, William F., Pocahontas
 Brintnall, Edgar S., Iowa City
 Brisbane, Royal E., Burbank, Calif. (L.M.)
 Brobyn, Thomas E., Grinnell
 Brock, Walter R., Sheldon (L.M.)
 Broderick, Clarence E., Cherokee
 Brody, Sidney, Ottumwa
 Brown, Addison W., Des Moines
 Brown, Arthur C., Council Bluffs
 Brown, Douglas H., Forest City
 Brown, Ernest L. W., Iowa Falls
 Brown, Gates M., Dayton
 Brown, George B., Clarion (L.M.)
 Brown, Harold L., Sioux City
 Brown, Harry W., Des Moines
 Brown, Ivan E., Forest City
 Brown, Kenneth R., Leon
 Brown, Merle J., Davenport
 Brown, Roy G., Onawa
 Brown, Wayne B., Mount Pleasant
 Brown, Willis E., Iowa City
 Brownstone, Manuel, Clear Lake
 Brownstone, Sidney, Clear Lake
 Brubaker, Carl F., Corydon
 Bruce, James H., Fort Dodge
 Bruechert, Henry N., Parkersburg
 Brumer, Herbert B., Clinton
 Brummitt, Charles F., Centerville
 Brundige, Ralph E., Akron
 Bruner, Julian M., Des Moines
 Brunk, Amos W., Prescott
 Brunner, Walter J., Akron
 Brush, C. Herbert, Shenandoah
 Buckley, Charles E., Blockton
 Buckmaster, Raleigh A., Dunkerton
 Bulawa, Francis A., Charles City
 Bullock, Alfred L., Cushing
 Bullock, Grant D., Inwood
 Bullock, William E., Lake Park
 Bunch, Harold M., Shenandoah
 Bunge, Raymond G., Iowa City
 Burbank, Dean S., Pleasantville
 Burbank, Sylvia J., Pleasantville
 Burch, Earl S., Dayton
 Burcham, Thomas A., Des Moines
 Buresh, Abner, Lime Springs
 Burgeson, Floyd M., Des Moines
 Burgess, Arthur W., Iowa Falls
 Burke, Edmund T., Des Moines
 Burke, Thomas A., Mason City
 Burleson, Ferris C., Iowa City
 Burleson, Marvin W., Fort Dodge
 Burns, Harry, Des Moines
 Burnside, Raymond A., Des Moines
 Burr, Charles L., Des Moines
 Burroughs, Hubert H., Sioux City
 Bursheim, Peder J., Des Moines
 Burt, Charles W., West Des Moines
 Bush, Earl B., Ames
 Bushmer, Alexander, Orange City
 Bushnell, John W., Sioux City
 Butler, Margaret K., Fort Dodge
 Butterfield, Edwin J., Tucson, Arizona (L.M.)
 Butterfield, Rosabel A., Indianola (L.M.)
 Butts, John H., Waterloo
 Buxton, Otho C., Webster City
 Buzard, Irenarch S., Jefferson (L.M.)
 Byers, Albert G., Coggon
 Byers, Bert H., Manchester
 Byrnes, Clement W., Dunlap
 Cahill, John A., Dubuque
 Cahn, Philipp, Oakdale
 Calbreath, Lloyd B., Humeston

- Callahan, George D., Iowa City
 Campbell, Nathan, Yarmouth
 Campbell, Thomas R., Sioux Rapids
 Campbell, Walter V., Oskaloosa
 Cantrell, Carmi, Iowa City
 Cantwell, John D., Davenport
 Carey, Edward T., Clinton
 Carey, Michael J., Council Bluffs
 Carlile, Amos W., Manning
 Carlson, Elmer H., Muscatine
 Carlson, Frank G., Mason City (L.M.)
 Carney, Robert G., Iowa City
 Carney, Roscoe P., Columbia, South Carolina
 Carpenter, Fred E., Newton
 Carpenter, Ralph C., Marshalltown
 Carr, Leslie L., West Union
 Carr, Thomas L., Iowa City
 Carrigg, Lawrence G., Cedar Rapids
 Carrington, Elsie R., Clinton
 Carryer, Carl H., Des Moines
 Carson, Andros, Des Moines (L.M.)
 Carstensen, Albert B., Linn Grove
 Carstensen, Vincent H., Waverly
 Carver, David C., Rockwell City
 Carver, William F., Fort Dodge (L.M.)
 Cary, Walter, Dubuque
 Cash, William H., Lenox
 Cashman, Chester F., Hartley
 Castell, John W., Fairfield
 Castles, William A., Dallas Center
 Catalona, William E., Muscatine
 Caterson, Leroy F., Oskaloosa
 Caughlan, Gerald V., Council Bluffs
 Cauley, Francis P., Anthon
 Caulfield, John D., New Hampton
 Chadbourne, Theodore L., Vinton (L.M.)
 Chain, Leo W., Dedham
 Challed, Don S., Cedar Rapids
 Chambers, Charles L., Des Moines
 Chambers, James W., Des Moines
 Chapler, Keith M., Dexter
 Chapman, Frederick J., Keokuk
 Chapman, Robert M., Cedar Rapids
 Chase, Sumner B., Fort Dodge
 Chase, Walter E., Rippey
 Chase, William B., Des Moines
 Chase, William B., Jr., Des Moines
 Chenoweth, Charles E., Mason City
 Chesnut, Paul F., Winterset
 Chester, Walter S., Albion
 Childs, Hal A., Creston (L.M.)
 Chittum, John H., Wapello (L.M.)
 Chittum, Josiah M., North Liberty
 Christensen, Emil M., Garner
 Christensen, Eunice M., Spencer
 Christensen, Everett D., Spencer
 Christensen, John R., Eagle Grove
 Christiansen, Charles C., Grand Mound
 Christiansen, James, Sioux City
 Christiansen, John E., Durant
 Clapsaddle, Dean W., Clear Lake
 Clapsaddle, John G., Burt
 Clark, Carl G., Manchester
 Clark, Clayton W., Nashua
 Clark, Frank H., Clarinda
 Clark, George H., Oskaloosa
 Clark, Howard F., Stuart
 Clark, James P., Estherville
 Clark, Orson W., Ord
 Clark, Richardson E., Manchester
 Clark, Thomas D., Victor
 Clary, William H., Prescott (L.M.)
 Clasen, Henry W., Cedar Falls
 Closson, Charles L., Walker
 Cmeyla, Patrick M., Sioux City
 Cobb, Elliott A., Iowa City
 Cobb, Elliott C., Sioux City
 Coburn, Frank E., Iowa City
 Cochran, J. Lawrence, Carroll
 Coddington, James H., Humboldt
 Cody, William E., Sioux City
 Coffin, Lonnie A., Farmington
 Cogley, John P., Council Bluffs
 Cohen, Sidney A., Council Bluffs
 Colbert, Lawrence D., Royal
 Cole, Elmer J., Woodbine (L.M.)
 Cole, Fern N., Iowa Falls
 Cole, Harold P., Thurman
 Cole, Julia, Ames
 Coleman, Francis C., Des Moines
 Collins, Harry A., Des Moines
 Collins, Loren E., Estherville
 Collins, Robert M., Council Bluffs
 Collison, Robert M., Oskaloosa
 Conaway, Aaron C., Marshalltown
 Conley, R. M., Perry
 Conlon, James B., Council Bluffs
 Conney, Roy M., Sergeant Bluff
 Connell, John, Des Moines
 Connelly, Edgar J., Dubuque
 Conner, John D., Nevada
 Konzett, Donald C., Dubuque
 Cook, Clarence P., Des Moines (L.M.)
 Cook, Kenneth G., Fairfield
 Cook, R. Sanford, Tipton
 Cook, Stuart H., Rock Rapids
 Cooper, Clark N., Waterloo
 Cooper, Gladys A., Red Oak
 Cooper, James S., Burlington
 Cooper, Jay C., Villisca
 Cooper, Raymond E., Keokuk
 Cooper, Thaddeus C., Ogden
 Cooper, Wayne K., Cedar Rapids
 Corbin, Sylvanus W., Corydon
 Corcoran, Thomas E., Des Moines
 Cords, Charles H., Rudd
 Corn, Henry H., Des Moines
 Cornell, Corwin S., Knoxville
 Coughlan, Charles H., Fort Dodge
 Coughlan, Daniel W., Des Moines
 Coulson, Forest H., Burlington
 Cox, Elmer L., Moulton
 Coyne, Kenneth M., Burlington
 Crabb, George M., Mason City
 Crain, Lewis F., Deep River (L.M.)
 Crain, Mattie M., Deep River (L.M.)
 Crane, Wendell P., Holstein
 Crawford, Jennings, Cedar Rapids
 Crawford, Robert H., Burlington
 Cressler, Frank E., Churidan
 Cretzmeyer, Charles H., Algona
 Cretzmeyer, Francis X., Emmetsburg
 Crew, Arthur E., Marion
 Crew, Morton R., Clearfield
 Crew, Philip, Marion
 Cronk, Charles H., Bloomfield (L.M.)
 Cross, Donald L., Boone
 Cross, Kenneth R., Des Moines
 Crow, George B., Burlington
 Crow, Ira N., Fairfield
 ★Crowder Roy E., Long Beach, Calif.
 Crowley, Daniel F., Des Moines
 Croxdale, Edward L., Villisca
 Crumpton, Robert C., Webster City
 Cruzen, John L., Barnes City
 Cullen, Stuart C., Iowa City
 Cullison, Robert M., Winston-Salem, North Carolina
 Cunningham, Glenn D., Davenport
 Cunningham, Melvin B., Norwalk
 Curtis, Dean, Chariton
 Cusick, George W., Davenport
 Cutler, Roy H., Little Sioux
 Dahl, Harry W., Des Moines
 Dahlbo, John E., Sutherland
 Dahlquist, Ralph M., Decorah
 Dalbey, Glenn M., Traer
 Danielson, May, Clinton
 Danley, Royal C., Hamburg
 Darling, John P., Mason City
 Darrow, Clarence A., Dubuque
 Daut, Walter W., Muscatine
 Davey, William P., Sioux City
 Davidson, Maurice C., Milton, Mass.
 Davidson, Thorald E., Mason City
 Davis, Arthur E., Seymour
 Davis, Charles M., Centerville
 Dawson, Emerson B., Fort Dodge
 Dawson, Leon E., Des Moines
 Day, Charles S., Cedar Rapids
 Day, Philip M., Oskaloosa
 Dean, Abbott M., Council Bluffs
 Dean, Frank W., Council Bluffs (L.M.)
 Dean, Ray H., Washington (L.M.)
 Dean, William F., Osceola (L.M.)
 DeCicco, Ralph, Greenfield
 Decker, Charles E., Davenport
 Decker, Henry G., Des Moines
 Decker, Jay C., Sioux City
 Deering, John S., Onawa
 DeGowin, Elmer L., Iowa City
 Demaree, Chester, Lacona
 De Meulenaere, John C., Grinnell
 Denney, Benjamin F., Britt
 Dennison, John C., Bellevue (L.M.)
 Derby, Hellen J., Iowa City
 DeShaw, Earl H., Monticello
 Des Marias, Varina, Grundy Center
 Devereux, Richard L., Sioux City
 Dewees, Frank L., Keokuk
 Dewey, Jay R., Schaller
 Dewitt, Charles H., Macedonia
 DeYarman, Kyle T., Morning Sun
 DeYoung, Ward A., Glenwood
 Diddy, Keith W., Perry
 Dierker, Bernard J., Fort Madison
 Dierker, Frank H., Fort Madison
 Dimsdale, Lewis J., Sioux City
 Dingman, Marshall E., Urbana
 Ditto, Boyd L., Burlington
 Dixon, George L., Tucson, Arizona (L.M.)
 Doane, Grace O., Des Moines
 Dobias, Stephen G., Chelsea
 Dobson, Richard A., Sioux City
 Dodge, Lynn, Ames
 Doering, Valentine T., Fort Madison
 Dolan, Henry F., Anamosa
 Dolan, Thomas R., Anamosa
 Doles, James W., Knoxville
 Dolmage, George F., Buffalo Center
 Dolmage, George H., Minneapolis, Minn.
 Donahue, James C., Centerville
 Donlan, Eugene V., Clinton
 Donnelly, Bernard A., Iowa City
 Donohoe, Anthony P., Davenport
 Donohue, Edmund S., Sioux City
 Donovan, William H., Iowa City
 Doornink, William, Orange City
 Dornier, Ralph A., Des Moines
 Dorsey, Thomas J., Fort Dodge
 Doss, W. Gordon, Mount Ayr
 Doss, W. Norman, Leon
 Doster, Mildred, Washington
 Down, Howard I., Sioux City
 Downing, Arthur H., Des Moines
 Downing, James A., Des Moines
 Downing, John S., Cedar Rapids
 Downing, Leroy M., Cedar Rapids
 Downing, Wendell L., LeMars
 Downs, Vernon S., Ottumwa
 Doyle, Joseph L., Sigourney
 Dressler, John B., Ida Grove
 Drew, Edward J., Des Moines
 Drier, William C., Waterloo
 Driver, Richard W., Waterloo
 Duane, Thomas D., Iowa City
 Dulin, Evelyn H., Iowa City
 Dulin, John A., Sigourney
 Dulin, John W., Iowa City
 Dulin, Tarana J. G., Sigourney
 Duling, Raymond J., Sioux City
 Dulmes, Abraham H., Klemme
 Dunkel, George K., Fairfield
 Dunn, Francis C., Cedar Rapids
 Dunn, James, Davenport
 Dunner, Ada, Des Moines
 Duschicker, Stanley W., Des Moines
 Dushkin, Milton A., Des Moines
 Dutton, Dean A., Van Horne
 Dvorak, Joseph E., Sioux City
 Dwyer, Bernard B., Preston
 Dwyer, Robert E., Clinton
 Dyke, Lester M., Sheldon
 Dyson, James E., Des Moines
 Earl, Warren Z., Sioux City
 Eastburn, Harvey B., Burlington
 Eaton, Robert C., Clarion
 Ebersole, Francis F., Mount Vernon
 Edgington, Frank D., Spencer
 Edwards, Charles V., Council Bluffs
 Edwards, James F., Ames
 Edwards, Ralph R., Centerville
 Egan, Thomas J., Bancroft
 Egbert, Daniel S., Fort Dodge
 Eggermayer, George W., Elliott
 Eggleston, Alfred A., Burlington
 Egloff, William C., Mason City
 Ehrenhaft, Johann L., Iowa City
 Eichenlaub, John E., Ackley
 Eiel, John O., Osage
 Eiel, Merrill O., Osage
 Elkins, Higdon B., Iowa City
 Eller, Lancelot W., Kanawha
 Eller, William C., Waterloo
 Elliott, Olin A., Des Moines
 Elliott, Vance J., Odessa, Texas
 Ellis, Coburn H., Webster City
 Ellis, Howard G., Des Moines
 Ellison, George M., Clinton
 Ellyson, Charles W., Waterloo
 Ellyson, Craig D., Waterloo
 Elvidge, George P., Perry
 Ely, Francis A., Des Moines (L.M.)
 Emanuel, Dennis G., Ottumwa
 Emerson, Edward L., Muscatine
 Emmons, Marcus B., Clinton
 Engelmann, Andrew T., Sioux City
 Enna, Melchior D., Rock Rapids
 Ennis, Harry H., Decorah
 Ensley, Bruce, Shell Rock
 Entringer, Albert J., Dubuque
 Entz, F. Harold, Waterloo
 Ergebenbright, Willard V., Iowa City
 Ericsson, Martin G., Cedar Falls
 Erikson, Roland E., Davenport
 Erskine, Arthur W., Cedar Rapids
 Evans, Farris D., Keokuk
 Evans, Harold J., Davenport
 Evans, John G., New Hartford (L.M.)
 Evans, William L., Sac City
 ★Everall, Bruce B., Monona
 Eversmeyer, Benjamin E., Muscatine
 Faber, Luke, Dubuque
 Fail, Charles S., Adel
 Fallows, Howard D., Mason City (L.M.)
 Farlow, Charles T., Farnhamville
 Farnsworth, Harold E., Storm Lake

- Farnum, Earl P., Sibley (L.M.)
 Faust, John H., Manson
 Fee, Charles H., Denison
 Fee, Knight E., Toledo
 Feightner, Robert L., Fort Madison
 Fellows, Joseph G., Ames
 Felter, Allan G., Van Meter
 Fenton, Charles D., Bloomfield
 Fenton, Robert L., Centerville
 Ferguson, John W., Newton
 Ferlic, Rudolph J., Carroll
 Field, Charles A., Portland, Oregon
 Field, George A., Des Moines (L.M.)
 Field, Grace E. W., Ann Arbor, Michigan
 Fields, Robert B., LaPorte City
 Fieseler, Walter R., Fort Dodge
 Fieselmann, George F., Spencer
 Files, Edward H., Cedar Rapids
 Fillenwarth, Floyd H., Charles City
 Finch, George H., Des Moines
 Findley, William J. K., Storm Lake (L.M.)
 Fisch, Roman J., LeMars
 Fishman, Harlow J., Des Moines
 Fisk, Charlotte, Des Moines
 Fitzgerald, Joseph D., Sloan
 Fitzpatrick, Dennis F., Iowa City
 Flancher, Leon H., Des Moines
 Flater, Norman C., Floyd
 Fleck, Warren L., Fort Howard, Maryland
 Fleischman, Abraham G., Des Moines
 Fleming, Edward F., Rockwell
 Flickinger, Roger R., Mason City
 Flocks, Rubin H., Iowa City
 Floersch, Eugene B., Council Bluffs
 Floyd, Mark L., Iowa City
 Flynn, Charles H., Clarinda
 Flynn, James R., Cedar Rapids
 Flynn, Robert E., Des Moines
 Foley, Fred C., Newell
 Foley, Walter E., Davenport
 *Foltz, Eloise M., Perry
 Fordyce, Frank W., Des Moines
 Foss, Robert H., Clinton
 Foster, Jess W., Ankeny
 Foster, Morgan J., Cedar Rapids
 Foster, Samuel T., Adel
 Foster, Warren H., Clinton
 Foster, Wayne J., Cedar Rapids
 Foulk, Frank E., Des Moines
 Fourt, Arthur S., Melbourne
 Fowler, Charles C., Lovilia
 Fowler, Willis M., Iowa City
 Fox, Charles I., Pharr, Texas (L.M.)
 Fox, Ray A., Charles City
 Franchere, Chetwynd M., Mason City
 Frank, Louis J., Sioux City
 Frank, Owen L., Maquoketa
 Franklin, George W., Jefferson
 Franco, Peter P., Ruthven
 Fraser, James B., Des Moines
 Fraser, John H., Monticello
 Frech, Raymond F., Newton
 Frederickson, Adolph R., Lansing
 Freligh, Clarence N., Waucoma
 French, Royal F., Marshalltown
 French, Valiant D., Carson
 Frey, Harry, Grinnell
 Frink, Lyle F., Spencer
 Fritchen, Arthur F., Decorah
 Fritz, Lafe H., Dubuque
 Fry, Gerald A., Vinton
 Fuerste, Frederick, Dubuque
 Fullerton, Oscar L., Redding (L.M.)
 Fullgrabe, Emil A., Sioux City
 Furgerson, Lee B., Waterloo
 Gaard, Rasmus R., Radcliffe
 Galinsky, Leon J., Des Moines
 Gallagher, John P., Oelwein
 Galloway, Milton B., Webster City
 Galman, James J., Sheldon (L.M.)
 Galvin, Robert J., Oelwein
 Gamble, Robert A., Madrid
 Gamet, Elmo E., Lamon
 Ganoe, James O., Ogden
 Gantz, Albert J., Greenfield
 Ganzhorn, Harold L., Mapleton
 Gardner, Harold O., Waterloo
 Gardner, John R., Lisbon
 Gardner, Paul E., New Hampton (L.M.)
 Garside, Arthur A., Davenport
 Garvy, Andrew C., Iowa City
 Gasson, James H., Shenandoah
 Gauger, John W., Early
 Gaukel, Leo A., Onawa
 Gearhart, George W., Springville
 Gearhart, Merriam, Bethany, Missouri
 Gee, Kenneth, Shenandoah
 Geeseka, Otto A., Mount Pleasant (L.M.)
 Gelfand, Arthur B., Sioux City
 Gelfand, Ben B., Sioux City
 Gelfand, Della G., Sioux City
 George, Everett M., Des Moines
 George, Louis A., Remsen
 Gerard, Russell S., Waterloo
 Gerken, James F., Waterloo
 Gernsey, Merritt N., Waverly
 Gerstman, Herbert, Marion
 *Gessner, Frederick W., Dysart
 Getty, Everett B., Primgar
 Gibbon, William H., Sioux City
 Gibbs, George M., Burlington
 Gibson, Chelsea D., Sac City
 Gibson, Douglas N., Des Moines
 Gibson, Paul E., Des Moines
 Gibson, Preston E., Davenport
 Giegerich, Walter F., Atlantic
 Giffin, John S., Cedar Falls
 Giles, Francis E., Cresco
 Giles, George C., Oakland (L.M.)
 Gilfillan, Clarence D. N., Bloomfield
 Gilfillan, Earl E., Bloomfield
 Gilfillan, George W., Bloomfield
 Gilfillan, Homer J., Bloomfield (L.M.)
 Gilfillan, Homer J., Jr., Bloomfield
 Gillett, Francis A., Oskaloosa
 Gillies, Carl L., Iowa City
 Gillmor, Benjamin F., Red Oak (L.M.)
 Gingles, Earl E., Onawa
 Gittins, Thomas R., Sioux City
 Gittler, Ludwig, Fairfield
 Givens, Hezekiah F., West Bend
 Glasscock, Thomas J., Hawarden
 Glesne, Orvin G., Iowa City
 Glesne, Otto N., Fort Dodge
 Glomset, Daniel A., Des Moines
 Glomset, Daniel J., Des Moines
 Glotfelty, James S., St. Louis, Missouri
 Goad, Robley K., Muscatine
 Goddard, Chester R., Guttenberg
 Goebel, Clarence J., Sioux City
 Goen, Edwin J., Charles City
 Goenne, William C., Davenport
 Goggin, John G., Ossian
 Goldberg, Louie, Des Moines
 Goltry, Charles F., Russell
 Goodenow, Sidney B., Colo
 Goodman, Lawrence O., Marshalltown
 Gordon, Arnold M., Des Moines
 Gorrell, Ralph L., Clarion
 Gottlieb, Jacques S., Iowa City
 Gottsch, Edwin J., Shenandoah
 Gould, Aubrey V., Jr., Wilton Junction
 Gould, George R., Conrad (L.M.)
 Gould, Isaac L., Des Moines
 Gower, Walter E., Fort Dodge
 *Graber, Harold E., Washington, D. C.
 Graening, Charles H., Waverly (L.M.)
 Graham, James W., Sioux City
 Gran, Albert G., Storm Lake
 Grandinetti, Arthur F., Oelwein
 Grant, John G., Ames
 Grau, Amandus H., Denison
 Graves, Charles C., Des Moines
 Graves, Max D., Pittsburgh, Pennsylvania
 Gray, Charles W., Oakdale
 Gray, Henry A., Keokuk
 Gray, John F., Melcher
 Gray, John F., Jr., Hartford, Connecticut
 Gray, Ralph E., Eldora
 Greenblatt, Jerald, Cedar Rapids
 Greenhill, Solomon, Des Moines
 Greenlee, Max R., Oskaloosa
 Greteman, Theodore J., Dubuque
 Griffin, Clark C., Vinton (L.M.)
 Griffin, Frank L., Baldwin
 Griffin, John M., Des Moines
 Griffin, Robert E., Sheldon
 Griffin, Sarah M. F., Manson
 Griffith, William O., Council Bluffs
 Groben, Elmer S., Columbus Junction
 Grossman, Milton D., Sioux City
 Grossman, Raymond S., Marshalltown
 Grossmann, Edward B., Orange City
 Grothaus, Dell L., Delta
 Grubb, Merrill W., Galva
 Gruenwald, Siegfried, Alton, Illinois
 Guessford, Howard H., George
 Gunn, Ross E., Boone
 Gurau, Henry H., Des Moines
 Guteh, Roy C., Chariton
 Guteh, Thomas E., Albia
 *Hage, Martin M., Lake Mills
 Hagen, Edward F., Decorah
 Haines, Diedrich J., Des Moines
 Haisch, Lilly K., Dubuque
 Hale, Albert E., Mason City
 Hall, Bonnybel A., Maynard
 Hall, Cluey C., Maynard
 Hall, Forest F., Webster City
 Hallendorf, Leonard C., Muscatine
 Halloran, William H., Audubon
 Halpin, Lawrence J., Cedar Rapids
 Hamilton, Benjamin C., Jefferson (L.M.)
 Hamilton, Benjamin C., Jr., Jefferson
 Hamilton, Cecil V., Garner
 Hamilton, Harriett S., Council Bluffs
 Hamilton, Henry H., Cedar Rapids
 Hamstreet, Wilbur F., Titonka
 Hanchett, McMicken, Council Bluffs
 Hands, Sidney G., Davenport
 Hansell, William W., Des Moines
 Hansen, Fred A., Red Oak
 Hansen, Niels M., Des Moines
 Hansen, Robert R., Marshalltown
 Hansen, Russell R., Storm Lake
 Hanson, Frank H., Magnolia
 Hanson, Laurence C., Jefferson
 Hardin, John F., Bedford
 Hardin, Robert C., Iowa City
 Hardwig, Oswald C., Waverly
 Harken, Conrad R., Osceola
 Harkness, Gordon F., Davenport
 Harman, Clarence, Emerson
 Harman, Dean W., Glenwood
 Harms, George E., Norway
 Harnagel, Edward J., Des Moines
 Harp, John F., Newton (L.M.)
 Harper, George, Fort Madison
 Harper, Harry, Fort Madison
 Harper, William H., Keokuk
 Harrington, Arlan F., Cedar Rapids
 Harrington, Raymond J., Sioux City
 Harris, Clinton E., Grinnell
 Harris, D. Dale, Marshalltown
 Harris, Grover W., Marshalltown
 Harris, Herbert H., Battle Creek
 Harris, Jack T., Luverne
 Harris, Ray R., Dubuque
 Harris, Robert H., Broadview, Illinois
 Hartley, Byron D., Mount Pleasant
 Hartman, Frank T., Waterloo (L.M.)
 Hartman, Howard J., Waterloo
 Hartsaw, John E., Sigourney
 Hartung, Walter, Davenport
 Harwood, Arthur M., Hedrick
 Hastings, John C., Elma
 Havlik, Aloysius J., Tama
 Hawkins, Emmet L., Council Bluffs
 Hayek, John M., Des Moines
 Hayes, William P., Cedar Rapids
 Hayne, Willard W., Des Moines
 Hayworth, Ballard, Sioux Rapids
 Hazlet, Kenneth K., Dubuque
 Heady, Conda C., Bloomfield (L.M.)
 Heald, Clarence L., Sigourney
 Healy, Maurice A., Boone
 Heathman, Frank E., Pocahontas (L.M.)
 Hecker, John T., Cedar Rapids
 Heetland, Louis H., Sibley (L.M.)
 Heffernan, Chauncey E., Sioux City
 Hegg, Lester R., Rock Valley
 Heilman, Elwood H., Ida Grove
 Heise, Carl A., Jr., Jewell
 Heitzman, Paul O., Cedar Rapids
 Heles, John B., Dubuque
 Henderson, Lauren J., Cedar Falls
 Henderson, Walker B., Oelwein
 Hendricks, Atlee B., Iowa City
 Hendrickson, Alvin H., Sioux City
 Henely, Edmund, Nora Springs
 Henkin, John H., Sioux City
 Hennes, Raphael J., Oxford
 Hennessey, John M., Manilla
 Hennessy, Felix A., Calmar
 Hennessy, J. Donald, Council Bluffs
 Henry, Clyde A., Farson (L.M.)
 Henry, Hiram B., Des Moines
 Henslin, Merrill E., Cresco
 Henstorf, Harold R., Shenandoah
 Herman, John C., Boone
 Hermesen, Paul J., Bronson
 Hery, Peter M., Prairie City
 Herrick, Thomas G., Gilmore City
 Herrick, Walter E., Ottumwa
 Herrmann, Christian H., Amana
 Hersey, Thomas F., Cedar Rapids
 Hersey, Nelson L., Independence
 Hess, Ardo M., West Union
 Hess, John, Jr., Des Moines
 Hesusinkveld, Henry J., Clinton
 Hickenlooper, Carl B., Winterset
 Hickerson, Luther C., Brooklyn
 Hickman, Charles S., Centerville
 Hicks, Murwyn L., Dubuque
 Hicks, Wayland K., Sioux City
 Hight, William B., Des Moines (L.M.)
 Hildebrand, Howard H., Buffalo, New York
 Hill, Christine S., Council Bluffs
 Hill, Don E., Clinton
 Hill, James C., Newton
 Hill, James W., Mount Ayr
 Hill, Julia Ford, Des Moines
 Hill, Lee F., Des Moines
 Hill, Richard W., Lake Mills

- Hills, Henry M., Lamoni (L.M.)
Hills, Robert A., Russell
Hobart, Francis W., Lake City
Hoeven, Edward B., Ottumwa
Hoffman, Paul M., Tipton
Hoffman, Robert W., Des Moines
Hoffmann, Alfred A., Waterloo
Hofmann, William P., Davenport
Hollander, Werner M., Davenport
Hollis, Edward L., Marengo
Holman, Henry D., Mason City
Holtey, Joseph W., Ossian
Hombach, Walter P., Council Bluffs
Hombach, William P., Council Bluffs (L.M.)
Hommel, Placido R. V., Elkader
Honke, Edward M., Sioux City
Hooper, Lester E., Indianola
Hopkins, David H., Glidden
Hornaday, William R., Des Moines
*Horton, Vincent J., Calmar (L.M.)
Hosford, Horace F., Burlington
Hospodarsky, Leonard J., Ridgeway
Hotz, Edward J., Iowa City
Houghton, Earl J., Bettendorf
Houlahan, Jay E., Mason City
Houlihan, Francis W., Ackley
Houlihan, Thomas J., Ida Grove (L.M.)
Houser, Blanche W., Cedar Rapids
Houser, Cass T., Cedar Rapids
Housholder, Harold A., Winthrop
Houston, Bush, Nevada
Howar, Bruce F., Webster City
Howard, Lloyd G., Council Bluffs
Howell, Elias B., Ottumwa
Hruska, Glen J., Belmond
Huber, Robert A., Charter Oak
Hudek, Joseph W., Garnavillo
Hudson, Jessie B., Hampton
Huffman, William C., Iowa City
Hughes, Parker K., Des Moines
Hughes, Robert O., Ottumwa
Hull, Henry C., Washington (L.M.)
Hulse, Roy A., Burlington
Hunting, Ralph D., Cedar Rapids
Huntley, Charles C., Avoca
Hurevitz, Hyman M., Davenport
Huston, Daniel F., Burlington
Huston, Herbert M., Ruthven (L.M.)
Huston, Marshall D., Cedar Falls
Huston, Paul E., Iowa City
Hyatt, Charles N., Albion (L.M.)
Hyatt, Charles N., Jr., Humeston
Ide, Lucien W., Iowa City
Ihle, Charles W., Cleghorn
Ingham, Paul G., Mapleton
Ingraham, David R., Sewal
Irish, Thomas J., Forest City
Irving, Noble W., Des Moines
Isenberg, Bertice A., Lohrville
Jackson, James M., Jefferson
Jackson, James S., Mount Pleasant
Jackson, Robert L., Iowa City
Jacobs, Carl A., Sioux City
Jacoby, James A., Burlington
Jacques, Lewis H., Lone Tree
Jaenicke, Kurt, Clinton
James, Audra D., Des Moines
James, David W., Des Moines
James, Lora D., Fairfield
James, Peter E., Elk Horn
Jameson, Robert E., Davenport
Janse, Phillip V., Algona
January, Lewis E., Iowa City
Jardine, George A., New Virginia
Jarvis, Fred J., Oskaloosa
Jarvis, Harry D., Chariton
Jaskunas, Stanley R., Bloomfield
Jeans, Philip C., Iowa City
Jeffries, Roy R., Waukon
Jenkins, George A., Albion
Jenkins, George D., Burlington
Jenkinson, Harry R., Iowa City
Jenks, Alonzo L., Jr., Des Moines
Jensen, Arthur E., Humboldt
Jensen, LeRoy E., Audubon
Jerdee, Ingebrecht C., Clermont
Jessup, Parke M., Muscatine
Jirsa, Harold O., Cedar Rapids
Johann, Albert E., Des Moines
Johnson, Aaron Q., Sioux City
Johnson, Albert P., Sigourney (L.M.)
Johnson, Aldis A., Council Bluffs
Johnson, Chester H., Cherokee
Johnson, Clarence A., Coon Rapids
Johnson, G. Raymond, Ottumwa
Johnson, George M., Marshalltown
Johnson, Harvey A., Atlantic
Johnson, J. A. William, Marshalltown
Johnson, Jonathan, Alden
Johnson, Norman M., Clarinda
Johnson, Robert J., Iowa Falls
Johnson, Robert W., Clinton
Johnson, Wendell A., Emmetsburg
Johnson, William A., Iowa Falls
Johnston, C. Harlan, Des Moines
Johnston, Florence D., Cedar Rapids
Johnston, George B., Estherville
Johnston, Harry L., Ames
Johnston, Helen, Des Moines
Johnston, Howard H., Hampton
Johnston, Kenneth L., Oskaloosa
Johnston, Wayne A., Dubuque
Johnstone, Alexander A., Keokuk
Jones, Cecil C., Des Moines
Jones, Charles L., Gilmore City
Jones, Clare C., Spencer
Jones, Harold W., Sioux City
Jones, Harry J., Cedar Rapids
Jones, Louis H., Wall Lake (L.M.)
Jones, Thomas S., Wauke
Jones, William S., Jr., Iowa City
Jongewaard, Albert J., Jefferson
Jongewaard, Jean, Jefferson
Jordan, Carl F., Fort Worth, Texas
Jordan, John W., Maquoketa
Jowett, John E., Clinton
Joynt, Albert J., Waterloo
Joynt, Martin J., LeMars
Joynt, Michael F., Marcus
Junger, Emil C., Soldier
Kaack, Harry F., Clinton
Kaack, Harry F., Jr., Clinton
Kadel, Merl, Laurens
Kahler, Hugo V., Reinbeck
Kalar, Sara B., Ames
Kane, Thomas E., Boone
Kanealy, John F., Cedar Rapids
Kapke, Franklin W., Mason City
Kaplan, David D., Sioux City
Kas, Thomas D., Sutherland
Kassmeyer, John C., Dubuque
Kast, Donald H., Des Moines
Katherman, Charles A., Sioux City
Katzmann, Frederick S., Des Moines
Kaufman, Ernest L., Fort Atkinson
★Keane, Kenneth M., Charlestown, Ind.
Keech, Roy K., Cedar Rapids
Keen, Burlin E., Des Moines
Keeney, George H., Mallard
Keettel, William C., Iowa City
Keil, Philip G., Des Moines
Keith, Charles W., Strawberry Point
Keith, John J., Marion
Kelberg, Melvin R., Sioux City
Keleher, Michael F., Iowa City
Kelley, Edmund J., Des Moines
Kelley, Lawrence E., Des Moines
Kelly, Dennis H., Des Moines
Kelly, John F., Sioux City
Kelly, Joseph L., Burlington (L.M.)
Kenefick, John N., Algona
Kennedy, Elizabeth S., Oelwein
Kennedy, James A., Knoxville
Kennedy, William C., Somers
Keohen, Gerald F., Dubuque
Kern, Lester C., Waverly (L.M.)
Kerr, H. Dabney, Iowa City
Kerr, Harper, Akron
Kerr, Johnson H., Akron
Kerr, W. Hawley, Hamburg
Kerr, William, Randolph
Kershner, Frank O., Clinton
Kersten, Ernest M., Fort Dodge
Kersten, Herbert, Iowa City
Kerwick, Joseph M., New Hampton
Kessel, James E., Des Moines
Kestel, John L., Waterloo
Ketner, Lester E., Oelwein
Kettelkamp, Enoch G., Monona
Keyser, Earl L., Marshalltown
Keyser, Ralph E., Marshalltown
Kieck, Ernest G., Cedar Rapids
Kiesau, Frederick W., Postville
Kiesau, Milton F., Postville
Kiesling, Harry F., Lehigh
Kilgard, Frank M., Phoenix, Ariz.
Kilgore, Benjamin F., Des Moines
Kimball, John E., West Liberty
Kimberly, Lester W., Davenport
King, David H., Batavia
King, Dean H., Spencer
King, Harold N., Hampton, Virginia
King, Oran W., Des Moines
King, Ray E., Des Moines
King, Ross C., Clinton
Kingsbury, Charles L., Keokuk
Kingsbury, Earl L., Keokuk
Kinzie, William K., Wellsburg
Kirch, Walter A., Des Moines
Kirkegaard, Smith C., Estherville
Kitson, Walter W., Atlantic
Klein, John L., Muscatine
Kleinberg, Henry E., Des Moines
Kline, Samuel, Sioux City
Klocksien, Harold L., Des Moines
Klocksien, Roy G., Rockwell City
Klok, George J., Council Bluffs
Kluever, Herman C., Fort Dodge
Knapp, Brace I., Des Moines
Knight, Benjamin L., Cedar Rapids
Knight, Edson C., Marshalltown
Knight, Russell A., Rockford
Knipe, James B., Armstrong
Knipfer, Robert L., Jesup
Knoll, Albert H., San Diego, California
Knosp, Norman C., Belle Plaine
Knott, Peirce D., Sioux City
Knouf, Clare E., Lake City
Knowles, Fred L., Fort Dodge
Knudsen, Hubert K., Clinton
Koch, George W., Anaheim, California (L.M.)
Koelling, Lloyd H., Newton
Koester, John F., Des Moines
Koonz, Lyle W., Vinton
Korfacher, Edwin S., Grinnell
Kornder, Louis H., Davenport
Korns, Horace M., Dubuque
Kos, Clair M., Iowa City
Koser, Donald C., Cherokee
Krakauer, Adolf, Clarinda
Krakauer, Max, Davenport
Krause, Charles S., Cedar Rapids
Krejsa, Oldrich, Cedar Rapids
Krenning, Katherine S., Los Angeles, California
Krepelka, George E., Osage
Krettek, John, Council Bluffs
Kreul, Dwight G., Davenport
Kriebs, Frank J., Elkport (L.M.)
Krichbaum, Horace T., Davenport
Krigsten, Joe M., Sioux City
Krigsten, William M., Sioux City
Krukenberg, William G., Cedar Rapids
Kruml, Joseph G., Council Bluffs
Kuhl, Augustus B., Davenport
Kuhl, Augustus B., Jr., Davenport
Kuhn, Leo C., Decorah
★Kuitert, John H., Denver, Colorado
Kuker, Leo H., Carroll
Kulp, Raymond R., Davenport
Kurth, Robert J., Dike
Kurtz, Cecilia M., Cedar Rapids
Kyle, William S., Washington
Labagh, Nicholas W., Mystic
LaDage, Leo H., Davenport
Ladd, Frederick G., Cedar Rapids (L.M.)
LaForce, Edward F., Burlington (L.M.)
Lagen, Mansfield S., Iowa City
Laidley, Wallace G., Ogden
Lamb, Frederick H., Davenport
Lamb, Harry H., Davenport
Lampe, Elmer L., Bellevue
Lande, Jacob N., Sioux City
Langford, William R., Cedar Rapids
Langworthy, Henry G., Dubuque
Lannon, James W., Mason City
Larimer, Robert N., Sioux City
Larimore, Ogilvie W., Des Moines
Larsen, Elmer A., Centerville
Larsen, Frank S., Fort Dodge
Larsen, Harold T., Fort Dodge
Larson, Andrew G., Dickens
Larson, Lester E., Decorah
Larson, Marvin O., Hawarden
Lathem, Charles W., Des Moines
LaTona, Joseph H., Shelby
Laughlin, Ralph M., Cedar Rapids
Lauder, Frank T., San Diego, California (L.M.)
Lavender, John G., George
Lawler, Jeremiah F., Cherokee
Lawrence, Joseph W., Dubuque
Layton, Jack M., Iowa City
Lease, Nimrod J., Crawfordville (L.M.)
Lederman, Joseph, Oskaloosa
Lee, Gisle M., Thompson (L.M.)
Lee, Robert W., Algona
Lee, Wayne R., Burlington
Leehey, Paul J., Independence
Leffert, Frank B., Centerville
Lehman, Emery W., Des Moines
Lehr, Sylvan M., Cedar Rapids
Leighton, Lewis L., Fort Dodge
Leinbach, Samuel P., Belmond
Leinfelder, Placidus J., Iowa City
Leiter, Herbert C., Sioux City
Leith, George G., Wilton Junction
Lekwa, Alfred H., Story City
Lemon, Kenneth M., Oskaloosa
Lenaghan, Robert T., Clinton
Lenzmeier, Albert J., Davenport
Leonard, Earl R., Marcus
Leonard, Frederick S., Dubuque
Lessenger, Ernest J., New London
Levin, Harry M., Waterloo
Levin, Stanley L., Columbia, South Carolina

- Lewis, Faye C., Webster City
 Lewis, William B., Webster City
 Lichter, Theodore W., Edgewood
 Lierle, Dean M., Iowa City
 Lierman, Clifford E., Lake View
 Liken, John A., Creston
 Limbert, Edwin M., Council Bluffs
 Limburg, J. Irwin, Jefferson
 Limburg, John I., Jr., Jefferson
 Lincoln, Simon E., Des Moines
 Lindley, Ellsworth L., Cedar Rapids
 Lindholm, Hugo, Armstrong
 Lindsay, Vernard T., Glidden
 Linn, Ellis G., Des Moines (L.M.)
 Liska, Edward J., Ute
 Little, Luther W., Atkins
 Lloyd, John M., Washington
 Locher, Robert C., Cedar Rapids
 Lock, Arthur L., Rock Valley
 Lockhart, Harold A., Cedar Rapids
 Lodwick, Gwilym S., Iowa City
 Locke, John F., Independence
 Loes, Anthony M., Dubuque
 Lohman, Frederick H., Waterloo
 Lohmann, Carl J., Burlington
 Lohr, Phillips E., Churдан
 Loizeaux, Charles E., Dubuque
 Long, Draper L., Mason City
 Longworth, Wallace H., Boone
 Loomis, Frederic G., Waterloo
 Loosbrock, John F., Perry
 Loose, David N., Maquoketa (L.M.)
 Lorfeld, Gerhard W., Davenport
 Losh, Clifford W., Des Moines
 Losh, Clifford W., Jr., Des Moines
 Lott, Robert H., Carroll
 Love, Francis L., Iowa City
 Lovejoy, E. Parish, Des Moines
 Lovelady, Ralph, Sidney
 Lovett, Charles E., Lineville
 Lovett, Earl D., Vinton
 Loving, Luther W., Estherville
 Lowry, Charles F., Council Bluffs
 Lueck, Arthur G., Des Moines
 Luehrsmann, Bernard C., Dyersville
 Luehrsmann, Bernard H., Dyersville
 Lugnbuhl, Christian B., Des Moines
 Luke, Edward, Coin
 Lundvick, Arthur W., Gowrie
 Luse, Ralph F., Clinton
 Lutton, John D., Sioux City
 Lyman, Frank L., Jr., Fort Madison
 *Lynch, Robert J., Des Moines
 Lynn, Arthur R., Marshalltown
 Lynn, Clarence E., Dubuque
 *Lytle, Carl C., Dubuque
 McAllister, James, Odebolt
 McBride, James T., Des Moines (L.M.)
 McBride, Robert H., Sioux City
 McBurney, George F., Belmond
 McCaffrey, Eugene H., Des Moines
 McCall, John H., Allerton
 McCann, John P., Marshalltown
 McCarl, J. Jay, Sac City
 McCarthy, Frank D., Sioux City
 McCartney, William H., Des Moines
 McClean, Earl D., Des Moines
 McClintock, John T., Iowa City (L.M.)
 McClure, Ernest C., Bussey (L.M.)
 McClure, Gail A., Ames
 McClurg, Frank H., Fairfield
 McConkie, Edwin B., Cedar Rapids
 McConkie, Willis L., Carroll
 McCoy, Harold J., Des Moines
 McCrae, Eppie S., Eddyville (L.M.)
 McCreedy, Murry L., Washington
 McCreery, John W., Whittemore
 McCreight, George C., Des Moines
 McCuiston, Harry M., Sioux City
 McCullough, John H., Waukon
 McDonald, Don J., Cedar Rapids
 McDonald, James E., Mason City (L.M.)
 McDowall, Gilbert T., Gladbrook
 McDowell, William O., Grundy Center
 McFarland, Guy E., Ames
 McFarland, Guy E., Jr., Ames
 McFarland, Julian E., Ames
 McGahey, William B., Stratford
 McGill, Arthur A., Danbury
 McGilvra, Arthur L., Sioux Center
 McGrane, Merle J., New Hampton
 McGready, Joseph H., Independence (L.M.)
 McGuire, Kenneth L., Keota
 McGuire, Roy A., Fairfield
 McHugh, Charles P., Sioux City
 McIntyre, Caryl C., Waterloo
 McKay, Richard V., Jr., Dubuque
 McKean, Frank F., Allison
 McKirahan, Josiah R., Wayland
 McKitterick, John C., Burlington
 McLaughlin, Charles W., Washington (L.M.)
 McMahon, Thomas, Garner (L.M.)
 McMeans, Thomas W., Davenport
 McMillen, Arch S., Fort Dodge
 McMullen, Jane, Des Moines
 McMullen, Thomas, Des Moines
 McMurray, Edward A., Newton
 McNamara, Robert J., Kansas City, Missouri
 McNamee, Jesse H., Des Moines
 McPherrin, Henry I., Des Moines
 McQuiston, J. Stuart, Cedar Rapids
 McTaggart, William B., Fort Dodge
 McVay, Melvin J., Lake City
 MacLeod, Hugh G., Greene
 MacNaughton, Luther D., Eagle Grove
 Mackin, M. Charles, Des Moines (L.M.)
 Macrae, James G., Creston
 Magaret, Ernest C., Glenwood
 Magdsick, Carl, Waterloo
 Magee, Emery E., Waterloo
 Mahin, Frank M., Washington (L.M.)
 Mahoney, James D., Council Bluffs
 Mailliard, Robert E., Storm Lake
 Maland, Donald O., Cresco
 Maloy, Wayland H., Shenandoah
 Mantz, Russell L., Cedar Rapids
 Maplethorpe, Charles W., Toledo
 Maplethorpe, Charles W., Jr., Toledo
 Marble, Edwin J., Marshalltown
 Marble, Ira A., Sheffield
 Marble, Pearl L., Liscomb
 Marble, Willard P., Marshalltown
 Marek, Joseph E., Mason City (L.M.)
 Maresh, George, Boise, Idaho
 Marinos, Harry G., Mason City
 Maris, Cornelius, Sanborn
 Maris, Gerrit, Hull
 Maris, William, Sioux Center
 Mark, Edward M., Clarksville
 Marker, John I., Davenport
 Marquis, Fred M., Waterloo
 Marquis, George S., Des Moines
 Marr, James, Glenwood
 Marsh, Elinor E., Council Bluffs
 Marsh, Frederick E., Council Bluffs
 Marsh, Richard S., Sioux City
 Martin, James W., Holstein
 Martin, John F., Latimer
 Martin, Josef R., Carroll
 Martin, Lee R., Council Bluffs
 Martin, Loran M., Fort Dodge
 Martin, Ronald P., Sioux City
 Mason, Robert P., Des Moines
 Mason, Stella M., Mason City (L.M.)
 Masson, Hervey F., Washington
 Mast, Truman M., Washington
 Mater, Dwight A., Knoxville
 Mater, Roy V., Knoxville
 Matheson, John H., Des Moines
 Mathias, John P., Mediapolis (L.M.)
 Mathiasen, Aileen E., Council Bluffs
 Mathiasen, Henning W., Council Bluffs
 Mathiasen, John W., Council Bluffs
 Matthews, Robert J., Clarinda
 Matthey, Carl H., Davenport
 Matthey, Walter A., Davenport
 Mattice, Lloyd H., Sheldon
 Mauritz, Emory L., Des Moines
 Maxwell, Charles T., Sioux City
 Maxwell, John, What Cheer
 May, George A., Des Moines
 Mead, Frank N., Cedar Falls (L.M.)
 Meany, John F., Rockwell
 Meffert, Clyde B., Cedar Rapids
 Meggers, Edward C., McGregor
 Mezorden, William H., Mount Pleasant
 Mehler, Frank R., New London
 Mellen, Robert G., Clinton
 Meredith, Loren K., Des Moines
 Merillat, Herbert C., Des Moines
 Merkel, Arthur E., Des Moines
 Merkel, Byron M., Des Moines
 Merrill, Charles H., Oskaloosa
 Merritt, Arthur M., Des Moines
 Merselis, Harold K., Audubon
 Mershon, Clinton E., Adel (L.M.)
 Meyer, Alfred K., Old Hickory, Tennessee
 Meyer, Valentine J., Glenwood
 Meyers, Frank W., Dubuque
 Meyers, Henry A., Davenport
 Michel, Bernard A., Dubuque (L.M.)
 Mieras, Marion D., Los Angeles, California
 Mikelson, Clarence J., Waterloo
 Miller, Brownlow B., Tabor
 Miller, C. Dudley, Denison
 Miller, Chester I., Iowa City
 Miller, Donald F., Williamsburg
 Miller, Enos D., Wellman
 Miller, Howard L., Cedar Rapids
 Miller, Jay R., Wellman
 Miller, Lawrence A., North English
 Miller, Temple M., Muscatine
 Miller, Wilbur R., Iowa City
 Miller, William B., Centerville
 Millice, Glenn B., Battle Creek
 Mills, Frank W., Ottumwa (L.M.)
 Milner, Leo J., Davenport
 Minassian, Harootune A., Des Moines (L.M.)
 Minassian, Thaddeus A., Des Moines
 Miner, James B., Charles City (L.M.)
 Miner, James B., Jr., Charles City
 Minkel, Roger M., Fort Dodge
 Missman, Walter F., Klemme
 Mitchell, Claire H., Indianola
 Moen, Berwyn H., Iowa City
 Moen, Stanley T., Iowa City
 Moerke, Robert F., Burlington
 Moershel, Henry G., Homestead
 Moes, Matthew J., Dubuque
 Moffatt, Thomas W., St. Louis, Missouri
 Mol, Henry L., Grundy Center
 Montgomery, Guy E., Washington
 Montz, Fred, Lowden
 Moon, Barclay J., Cedar Rapids
 Mooney, James C., Des Moines
 Moore, Edson E., Fort Dodge
 Moore, Gage C., Ottumwa
 Moore, Harold H., Ottumwa
 Moore, Jesse C., Eldon
 Moore, Pauline V., Iowa City
 Moorehead, Harold B., Underwood
 Moran, Thomas A., Melrose
 Mordaunt, Richard H., Nevada
 Morgan, Earl E., Sioux City
 Morgan, Fred B., Clinton
 Morgan, Harold W., Mason City
 Morgan, Paul W., Iowa City
 Moriarty, John F., Atlantic
 Moriarty, Lauren R., Villisca
 Morris, Zenella E. N., Stockport (L.M.)
 Morrison, Edward D., Fort Dodge
 Morrison, John R., Carroll
 Morrison, John W., Alta
 Morrison, Roland B., Carroll
 Morrison, Wesley J., Cedar Rapids (L.M.)
 Morrissey, George E., Davenport
 Morrissey, William J., Sioux Falls, South Dakota
 Morse, Charles H., Eagle Grove (L.M.)
 Morton, Elmer E., Manning
 Morton, Matthew T., Estherville
 Mosher, Martin L., Jr., Iowa City
 Mott, William H., Farmington
 Mountain, Elmer B., Des Moines
 Mountain, George E., Des Moines
 Mueller, Emil F., Dyersville
 Mugan, Robert C., Sioux City
 Mullmann, Arnold J., Perry
 Mulson, Frederick W., Cedar Rapids
 Mumma, Claude S., Santa Monica, California
 Munger, Elbert E., Jr., Spencer
 Murchison, Kenneth, Sidney
 Murphy, Arlo L., Fredericksburg
 Murphy, Cornelius B., Alton
 Murphy, George C., Waterloo
 Murphy, James H., Des Moines
 Murphy, James J., Cedar Rapids
 Murray, Frederick G., Cedar Rapids
 Murray, Jonathan H., Burlington
 Murtaugh, James E., New Hampton
 Myerly, William H., Des Moines
 Myers, Edward M., Woodward
 Myers, Judson W., Postville
 Myers, Kermit W., Sheldon
 Nagyfy, Stephen F., Iowa City
 Nakashima, Victor K., Des Moines
 Nash, Edwin A., Ottumwa
 Nauman, Ernest C., Waterloo
 Nayfield, Ruth K., Des Moines
 Neal, Emma Jewell, Cedar Rapids
 Nederhiser, Morgan I., Cascade
 Needles, Roscoe M., Atlantic
 Neglia, Fortunato J., Maxwell
 Nelken, Leonard, Clinton
 Nelken, Viola D., Clinton
 Nelson, Arnold L., Des Moines
 Nelson, Carol C., Red Oak
 Nelson, Frederick L., Ottumwa
 Nelson, Frederick L., Jr., Ottumwa
 Nelson, Harry E., Dayton
 Nelson, Leo C., Jefferson
 Nelson, Paul O., Emmetsburg
 Nelson, Robert J., Clinton
 Nemes, Joseph J., Cedar Rapids
 Nesler, Alfred B., Dubuque
 Ness, Carl K., St. Joseph, Missouri
 Netolicky, Robert Y., Cedar Rapids
 Neufeld, Robert J., Davenport
 Neuzil, William J., Cedar Rapids
 Newland, Don H., Belle Plaine
 Newlove, Frank E., Wingdale, New York
 Newman, Cloyce A., Bode

- Newman, Robert W., Iowa City
 Newton, James S., Washington
 Niblock, George F., Sturgeon Bay, Wisconsin
 Nicholson, Clyde G., Des Moines
 Nicoll, Charles A., Panora
 Nicoll, David T., Mitchellville (L.M.)
 Nielsen, Arnold T., Des Moines
 Nielsen, Rudolph F., Cedar Falls
 Nielsen, Arthur L., Long Beach, California
 Niemann, Theodore V., Brooklyn
 Nierling, Paul A., Cresco
 Noble, Harold F., Fort Madison
 Noble, Nelle S., Des Moines
 Noble, Rusl P., Alta
 Noé, Carl A., Cedar Rapids
 Noé, Charles F., Amana (L.M.)
 Nolan, John C., Corning
 Nomland, Ruben, Iowa City
 Noonan, James J., Marshalltown
 Nord, Donald H., Cambridge
 Norment, John E., Clinton
 Norris, Lewis D., Des Moines
 North, Frank R., Winfield
 Norton, Alva C., Rockwell City (L.M.)
 Norton, Vera V., Waverly
 Noun, Louis J., Des Moines
 Noun, Maurice H., Des Moines
 Nourse, Leslie M., Des Moines
 Null, Frederick F., Hawarden
 Nyquist, David M., Eldora
 Nysewander, Christian, Des Moines (L.M.)
 Ober, Frank G., Burlington
 O'Boyle, Cyril P., Alpena, Michigan
 O'Brien, Cecil S., Iowa City
 O'Brien, Lyl J., Fort Dodge
 O'Brien, Stephen A., Mason City
 O'Connor, Edwin C., New Hampton
 O'Donnell, Joseph E., Clinton
 O'Donoghue, Arch F., Sioux City
 O'Donoghue, James H., Storm Lake
 Oelrich, Carl D., Sioux Center
 Oezel, Herman D., Maurice
 O'Keefe, John E., Waterloo (L.M.)
 O'Keefe, Paul T., Waterloo
 Okerlin, Oscar W., Essex
 O'Leary, Francis B., Sib'ey
 Olsen, Martin L., Des Moines
 Olson, Evelyn M., Winterset
 Olson, Kanald E., Milton
 Olson, Russell L., Northwood
 O'Neal, Harold E., Tipton
 Osborn, C. Robert, Dexter
 Osincup, Paul W., Sioux City
 Osten, Burdette H., Northwood
 O'Toole, Laurence C., LeMars
 Otto, Paul C., Fort Dodge
 Owen, William E., St. Ansgar
 Owen, William R., Osage
 Pace, Arthur A., Toledo (L.M.)
 *Page, Addison C., Mason City (L.M.)
 Page, Wesley M., Montezuma
 Page'sen, Otto H., Iowa Falls
 Pahlas, Henry M., Dubuque
 Paige, Ralph T., LaPorte City
 Painter, J. Carl, Dubuque
 Palmer, Carson W., Guttenberg
 Palumbo, Louis T., Des Moines
 Paragas, Modesto R., Creston
 Parish, John R., Grinnell
 Park, Elmer R., Sioux City
 Parke, John, Cedar Rapids
 Parker, Edward S., Ida Grove (L.M.)
 Parker, Robert L., Des Moines
 Parkin, Robert C., New Albin
 Parks, Claude O., Iowa City
 Parry, Roy E., Scranton
 Parsons, John C., Des Moines
 Parsons, Percival L., Traer (L.M.)
 Paschal, George A., Webster City
 Pascoe, Paul L., Carroll
 Patterson, Alpheus W., Seattle, Wash.
 Patterson, John N., Burlington (L.M.)
 Patterson, Roy A., Webster City
 Paul, John D., Anamosa
 Paul, Robert D., Anamosa
 Paul, Robert E., Wes Des Moines
 Paul, William D., Iowa City
 Paulsen, Herbert B., Harris
 Paulus, Edward W., Iowa City
 Paulus, James W., Dubuque
 Pauly, James P., Dubuque
 Payne, Roswell H., Exira
 Pearlman, Leo R., Des Moines
 Pearson, George J., Burlington
 Peart, John C., Davenport
 Pease, Herbert, Alta Vista
 Peasley, Harold R., Des Moines
 Peck, Raymond E., Davenport
 Peggs, Harold J., Des Moines
 Peisen, Conan J., Des Moines
 Pelz, Werner P., Nashua
 Pence, James W., Columbus Junction
 Penly, Don H., Cedar Falls
 Penn, Eugene C., West Des Moines
 Perkins, Franklin C., Hedrick
 Perkins, Rollin M., Davenport
 Perley, Arthur E., Waterloo
 Perrin, H. Joyce, Des Moines
 Peshau, Waldo E., Cedar Rapids
 Petersen, Emil C., Atlantic
 Petersen, Millard T., Atlantic
 Petersen, Vernon W., Clinton
 Peterson, Evan A., Burlington
 Peterson, Frank R., Cedar Rapids
 Peterson, John C., Hartley
 Peterson, Ray W., Clear Lake
 Pfeiffer, Eric P., Des Moines
 Pfeiffer, Ernest, Hartley
 Pfeiffer, Harry E., Cedar Rapids
 Pfohl, Anthony C., Dubuque
 Phelps, Gardner D., Waterloo
 Phelps, Richard E., New Sharon
 Phetepace, Willard S., Davenport
 Phifer, Robert L., Davenport
 Phillips, Albin B., Clear Lake (L.M.)
 Phillips, Allan B., Des Moines
 Phillips, Clarence P., Muscatine
 Phillips, Isaac H., Missouri Valley
 Phillips, Walter B., Montezuma
 Pickard, John C., Dubuque
 Pickenbrock, Frank J., Dubuque
 Piercy, Kenneth C., Ames
 Pierson, Lawrence E., Sioux City
 Pitluck, Harry L., Laurens
 Plankers, Arthur G., Dubuque
 Plass, Everett D., Iowa City
 Poepsel, Frank L., Fort Madison
 Porter, Charles E., Redfield
 Porter, Richard C., Fort Des Moines
 Porter, Robert J., Des Moines
 Porter, S. Dale, Grinnell
 Posner, Edward R., Des Moines (L.M.)
 Posner, Edward R., Jr., Des Moines
 Powell, Adrian R., Elkader
 Powell, Burke, Albia (L.M.)
 Powell, Lester D., Des Moines
 Powell, Robert A., Farragut
 Powell, Velura E., Red Oak (L.M.)
 Powers, George H., Shenandoah
 Powers, Henry R., Emmetsburg
 Powers, Ivan R., Waterloo
 Powers, John L., Estherville
 Preece, Wade O., Waterloo
 Prentice, George L., Bloomfield
 Prescott, Kenneth H., Storm Lake
 Presnell, J. William, Scranton
 Presnell, William H., Charlotte
 Prettyman, Oscar R., Manson
 Prewitt, Leland H., Ottumwa
 Price, Alfred S., Des Moines
 Priessman, Frank A., Keokuk
 Priestley, Joseph B., Des Moines
 Pringle, Jesse A., Oconomowoc, Wisconsin (L.M.)
 Proctor, Rothwell D., Cedar Rapids
 Prouty, James V., Cedar Rapids
 Province, William, Jr., Dubuque
 Ptacek, Joseph L., Webster City
 Pugh, Philip F. H., Sioux City
 Pumphrey, Loira C., Keokuk
 Puntney, A. W., Boone
 Purdy, William O., Des Moines
 Putnam, Chester L., Des Moines
 Quinn, Francis P., Dubuque
 Quirin, Lloyd F., Des Moines
 Radcliffe, Christian E., Hartley
 Rahn, Gordon E., Mount Vernon
 Ralston, Furman P., Knoxville
 Rambo, Cyrus C., Creston
 Rambo, David T., Ottumwa (L.M.)
 Randall, John H., Iowa City
 Randall, William L., Hampton
 Rankin, Isom A., Iowa City
 Rankin, John R., Keokuk
 Rankin, William, Keokuk
 Ransom, Harry E., Des Moines
 Rater, David L., Ottumwa
 Rathe, Herbert W., Waverly
 Rausch, Gerald R., St. Louis, Missouri
 Raw, Elmer J., Pierson
 Redmond, James J., Cedar Rapids
 Redmond, Thomas M., Monticello
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 Reed, Guy P., Davis City (L.M.)
 Reed, Paul A., Iowa City
 Reed, Purl E., Council Bluffs
 Reeder, James E., Sioux City
 Reeder, James E., Jr., Sioux City
 Reedholm, Edwin A., Grundy Center
 Reiley, William S., Red Oak (L.M.)
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 Reinecke, Edward L., Dubuque (L.M.)
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 Roberts, Francis L., Spirit Lake
 Roberts, Francis M., Knoxville
 Roberts, Justus B., Ottumwa
 Robertson, Tre-dwell A., West Liberty
 Robinson, George L., Waterloo
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 Rominger, Clark W., Waukon
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 Sells, Benjamin B., Independence
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 Shaw, Mathew M., Madrid
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 Sherlock, John H., Rock Rapids
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 Shine, Dan W., Oelwein
 Shonka, Thomas E., Malvern
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 Shulman, Herbert, Waterloo
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 Spevak, Jack, Des Moines
 Spielhagen, Guenther F., Iowa City
 Spilman, Harold A., Ottumwa
 Springer, Floyd A., Des Moines
 Sproul, William M., Des Moines
 Stalford, John H., Sac City (L.M.)
 Stam, Nicholas C., Mason City
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 Stansbury, John E., Cedar Rapids
 Stark, Callistus H., Cedar Rapids
 Starr, Charles F., Mason City
 Starry, Allen C., Sioux City
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 Stearns, Frederic T., Osage
 Steelsmith, Frank R., Des Moines
 Steenrod, Emerson J., Iowa Falls
 Steffens, Lincoln F., Dubuque
 Steffey, Fred L., Keokuk
 Stegman, Jacob J., Marshalltown
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 Stephen, Paul, Manchester
 Stephen, Raymond J., Cedar Rapids
 Stephenson, Wayland H., Newton
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 Sternagel, Fred, West Des Moines
 Sternberg, Walter A., Mount Pleasant (L.M.)
 Sternhill, Irving, Mason City
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 Stevenson, Eber F., Waterloo (L.M.)
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 *Stewart, Robert A., Independence
 Stewart, William L., Mediapolis
 Stickler, Robert B., Iowa City
 Stinson, Alice C., Estherville (L.M.)
 Stitt, Paul L., Fort Dodge
 Stoakes, Charles S., Lime Springs
 Stober, Raymond W., Charles City
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 Straub, Joseph J., Iowa City
 Strawn, John T., Des Moines
 Stribble, Harry A., Dubuque
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 Stuart, Percy E., Nashua
 Stueland, A. J. R., Mason City
 Stumme, Ernest H., Denver
 Stutsman, Eli E., Washington
 ★Stutsman, Robert E., New York, New York
 Suchomel, Thomas F., Cedar Rapids
 Sugg, Herbert R., Clinton
 Sulek, Arthur E., Cedar Rapids
 Sullivan, Lawrence F., Donahue
 Sulzbach, John F., Iowa City
 Sunderbruch, John H., Davenport
 Svendsen, Reinert N., Decorah
 Swab, Charles C., Cedar Rapids
 Swallum, James A., Storm Lake
 *Swallum, Troy W., Spencer
 Swanson, Leslie W., Mason City
 Sweeney, Donald B., Iowa City
 Sweeney, Lloyd J., Sanborn
 Swift, Frederick J., Maquoketa
 Swift, Frederick J., Jr., Maquoketa
 Swinney, Roy G., Richland
 Sybenga, Jacob J., Pella
 Synhorst, John B., Des Moines
 Sywassink, George A., Muscatine
 Tait, John H., Des Moines
 Talley, Louis F., Marshalltown
 Tarnisia, Francis X., Missouri Valley
 Tapper, George W., Monona
 Taylor, Charles L., Pomeroy
 Taylor, Edward D., Bettendorf (L.M.)
 ★Taylor, Ingram C., Martinsburg, West Virginia
 Taylor, Lawrence A., Ottumwa
 Taylor, Maude, Ottumwa
 Taylor, Robert S., Davenport
 Taylor, Wendel W., Sheffield
 Teufel, John C., Davenport
 Thaler, David, Cedar Rapids
 Tharp, Herbert M., Monroe
 Thatcher, Wilbur C., Fort Dodge
 Thayer, Wilbur F., Ocheyedan
 Thein, Garfield M., Oelwein
 Theisen, Roy I., Dubuque
 Thielen, Edward W., Waterloo
 Thiel, John B., Fonda
 Thomas, Clifford W., Mason City
 Thomas, Clyde E., Keystone
 Thomas, Colin G., Monticello
 *Thomas, Louis A., Red Oak (L.M.)
 Thomas, William H., McGregor
 Thompson, Elvin D., Jefferson
 Thompson, Howard E., Dubuque
 Thompson, James R., Waterloo
 Thompson, Kenneth L., Oakland
 Thompson, Virginia D., Des Moines
 Thomsen, Thomas F., Red Oak
 Thorburn, Oral L., Ames
 Thornburg, William V., Guthrie Center (L.M.)
 Thornell, Joseph B., Council Bluffs
 Thornton, F. Eberle, Des Moines
 Thornton, John W., Lansing
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 Thorsness, Edwin T., Dubuque
 Thorson, John A., Dubuque
 Throckmorton, J. Fred, Des Moines
 Throckmorton, Jeannette Dean, Des Moines (L.M.)
 Throckmorton, Robert F., Des Moines (L.M.)
 Throckmorton, Scott L., Chariton
 Throckmorton, Tom B., Des Moines
 Throckmorton, Tom D., Des Moines
 Tice, Claude B., Mason City
 Tice, George I., Mason City
 Tice, W. Arnold, New Orleans, Louisiana
 Tidrick, Robert T., Iowa City
 Tiedeman, John P., Sioux City
 Tierney, Edmund J., Sioux City
 Tierney, James M., Des Moines
 Tilton, John J., Bellevue
 Tingwald, Fred R., Iowa City
 Timley, Mary L., Council Bluffs (L.M.)
 Timley, Mathew A., Council Bluffs
 Timley, Robert E., Council Bluffs
 Tinsman, Eugene, Orient
 Titus, Elton L., Iowa City
 Todd, Donald W., Guthrie Center
 Tolliver, Hillard A., Charles City
 Tombaugh, Frank M., Burlington (L.M.)
 *Tompkins, Earle D., Clarion
 Toubes, Abraham A., Des Moines
 Towle, Robert A., Davenport
 Tracy, John S., Sioux City
 Traister, John E., Eddyville

- Trey, Bernard L., Marshalltown
 Treynor, Jack V., Council Bluffs
 Trimbo, Joseph O., Chelsea
 Tripp, Leroy R., Sioux City
 Troxell, Millard A., Nora Springs
 Trueblood, Clare A., Indianola
 Trunnell, Thomas L., Waterloo
 Turner, George E., West Des Moines
 Turner, Lee R., Renwick
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 Wahrer, Frederick L., Marshalltown
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 Watters, Phillip G., Des Moines
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 Wolfe, Russell M., Marshalltown
 Wolfe, Wilson C., Ottumwa
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 Wray, Robert M., Cedar Rapids
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 * Zinn, Edgar N., Fort Dodge
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Benton	G. R. Woodhouse, Vinton	L. W. Koontz, Vinton	N. B. Williams, Belle Plaine
Black Hawk	J. F. Gerken, Waterloo	F. G. Loomis, Waterloo	A. J. Joynt, Waterloo
Boone	R. S. Shane, Pilot Mound	H. C. Scharnweber, Boone	J. O. Ganoe, Ogden
Bremer	R. E. Shaw, Waverly	O. Blum, Waverly	F. R. Sparks, Waverly
Buchanan	P. J. Leehy, Independence	J. F. Loock, Independence	J. W. Barrett, Jr., Independence
Buena Vista	R. P. Noble, Alta	R. E. Mailliard, Storm Lake	H. E. Farnsworth, Storm Lake
Butler	B. V. Anderson, Greene	F. F. McKean, Allison	Bruce Ensley, Shell Rock
Calhoun	P. W. Van Metre, Rockwell City	C. E. Knouf, Lake City	W. W. Weber, Pomeroy
Carroll	T. H. Van Camp, Breda	J. R. Martin, Carroll	W. L. McConkie, Carroll
Cass	W. W. Kitson, Atlantic	J. F. Moriarty, Atlantic	
Cedar	Fred Montz, Lowden	J. E. Smith, Clarence	P. M. Hoffman, Tipton
Cerro Gordo	Draper Long, Mason City	J. W. Lannon, Mason City	G. J. Sartor, Mason City
Cherokee	D. C. Koser, Cherokee	H. D. Seely, Cherokee	C. H. Johnson, Cherokee
Chickasaw	E. C. O'Connor, New Hampton	P. C. Richmond, New Hampton	P. E. Gardner, New Hampton
Clarke	F. C. Bowen, Woodburn	C. R. Harken, Osceola	H. E. Stroy, Osceola
Clay	C. C. Jones, Spencer	D. H. King, Spencer	C. C. Colletter, Spencer
Clayton	C. W. Keith, Strawberry Point	T. W. Lichter, Edgewood	P. R. V. Hommel, Elkader
Clinton	V. W. Peterson, Clinton	M. B. Emmons, Clinton	R. F. Luse, Clinton
Crawford	R. A. Huber, Charter Oak	C. Dudley Miller, Denison	C. L. Sievers, Denison
Dallas-Guthrie	Donald W. Todd, Guthrie Center	C. A. Nicoll, Panora	
Davis	Richard Schoonover, Bloomfield	H. C. Young, Bloomfield	C. H. Cronk, Bloomfield
Decatur	F. A. Bowman, Leon	E. E. Gamet, Lamoni	F. A. Bowman, Leon
Delaware	Paul Stephen, Manchester	R. E. Clark, Manchester	
Des Moines	W. R. Lee, Burlington	F. H. Coulson, Burlington	F. G. Ober, Burlington
Dickinson	F. L. Roberts, Spirit Lake	Ruth Wolcott, Spirit Lake	T. L. Ward, Arnolds Park
Dubuque	F. P. Quinn, Dubuque	R. B. Rusk, Dubuque	J. C. Painter, Dubuque
Emmet	J. P. Clark, Estherville	G. B. Johnston, Estherville	S. C. Kirkegaard, Estherville
Fayette	M. G. Beddoes, Oelwein	W. J. Wolfe, West Union	C. C. Hall, Maynard
Floyd	E. J. Goen, Charles City	E. V. Ayers, Charles City	R. A. Fox, Charles City
Franklin	W. R. Arthur, Hampton	W. W. Taylor, Sheffield	J. C. Powers, Hampton
Fremont	Ralph Lovelady, Sidney	A. E. Wanamaker, Hamburg	A. E. Wanamaker, Hamburg
Greene	J. I. Limburg, Jr., Jefferson	E. D. Thompson, Jefferson	L. C. Nelson, Jefferson
Grundy	H. L. Mol, Grundy Center	Varina Des Marias, Grundy Ctr	W. O. McDowell, Grundy Center
Hamilton	F. F. Hall, Webster City	B. F. Howar, Webster City	M. B. Galloway, Webster City
Hancock-Winnebag	D. F. Shaw, Britt	I. E. Brown, Forest City	C. V. Hamilton, Garner
Hardin	E. J. Steenrod, Iowa Falls	F. N. Cole, Iowa Falls	G. F. Dolmage, Buffalo Center
Harrison	C. W. Byrnes, Dunlap	F. H. Hanson, Magnolia	F. N. Cole, Iowa Falls
Henry	J. S. Jackson, Mt. Pleasant	W. H. Megorden, Mt. Pleasant	F. H. Hanson, Magnolia
Howard	P. A. Nierling, Cresco	Abner Buresh, Lime Springs	J. S. Jackson, Mt. Pleasant
Humboldt	A. E. Jensen, Humboldt	C. A. Newman, Bode	I. T. Schultz, Humboldt
Ida	J. B. Dressler, Ida Grove	W. P. Crane, Holstein	E. S. Parker, Ida Grove
Iowa	D. F. Miller, Williamsburg	I. J. Sinn, Williamsburg	I. J. Sinn, Williamsburg
Jackson	O. L. Frank, Maquoketa	F. J. Swift, Jr., Maquoketa	F. J. Swift, Maquoketa
Jasper	P. Adams, Newton	J. W. Ferguson, Newton	R. W. Wood, Newton
Jefferson	I. N. Crow, Fairfield	Robert A. Ryan, Fairfield	I. N. Crow, Fairfield
Johnson	C. C. Ware, Iowa City	R. C. Hardin, Iowa City	G. C. Albright, Iowa City
Jones	J. D. Paul, Anamosa	C. R. Smith, Wyoming	T. M. Redmond, Monticello
Keokuk	K. L. McGuire, Keota	John Maxwell, What Cheer	D. L. Grothaus, Delta
Kossuth	C. H. Cretzneyer, Algonia	M. G. Bourne, Algonia	J. G. Clapsaddle, Burt
Lee	F. L. Poepsel, Ft. Madison	F. D. Evans, Keokuk	R. L. Feightner, Fort Madison
Linn	E. G. Kieck, Cedar Rapids	James J. Redmond, Cedar Rapids	G. H. Ashline, Keokuk
Louisa	E. S. Groben, Columbus Junction	R. H. Chittum, Wapello	B. F. Wolverton, Cedar Rapids
Lucas	Dean Curtis, Chariton	J. E. Anderson, Chariton	J. H. Chittum, Wapello
Lyon	A. C. Wubben, Rock Rapids	S. H. Cook, Rock Rapids	S. L. Throckmorton, Chariton
Madison	G. J. Anderson, Winterset	P. F. Chesnut, Winterset	S. H. Cook, Rock Rapids
Mahaska	M. R. Greenlee, Oskaloosa	R. M. Collison, Oskaloosa	C. B. Hickenlooper, Winterset
Marion	F. M. Roberts, Knoxville	D. S. Burbank, Pleasantville	E. B. Wilcox, Oskaloosa
Marshall	R. C. Wells, Marshalltown	E. C. Knight, Marshalltown	H. L. Bridgeman, Knoxville
Mills	W. A. DeYoung, Glenwood	T. E. Shonka, Malvern	A. D. Woods, State Center
Mitchell	T. G. Walker, Riceville	William Owen, St. Ansgar	D. W. Harman, Glenwood
Monona	L. A. Gaukel, Onawa	P. L. Wolpert, Onawa	T. S. Walker, Riceville
Monroe	H. J. Richter, Albia	T. A. Moran, Melrose	C. W. Young, Onawa
Montgomery	H. C. Bastron, Red Oak	E. M. Sorensen, Red Oak	C. C. Fowler, Lovilia
Muscatine	K. E. Wilcox, Muscatine	L. C. Hallendorf, Muscatine	Oscar Alden, Red Oak
O'Brien	E. B. Getty, Pringhar	W. S. Balkema, Sheldon	C. P. Phillips, Muscatine
Osceola	E. S. Aelits, Sibley	Frank Rizzo, Sibley	W. R. Brock, Sheldon
Page	C. H. Flynn, Clarinda	F. S. Sperry, Clarinda	Frank Reinsch, Ashton
Palo Alto	J. W. Woodbridge, Emmetsburg	W. A. Johnson, Emmetsburg	W. H. Maloy, Shenandoah
Plymouth	R. J. Fisch, Le Mars	L. C. O'Toole, Le Mars	H. L. Brereton, Emmetsburg
Pocahontas	H. L. Pitluck, Laurens	C. L. Jones, Gilmore City	W. L. Downing, Le Mars
Polk	L. D. Powell, Des Moines	H. C. Bone, Des Moines	C. L. Jones, Gilmore City
Pottawattamie	G. J. Klok, Council Bluffs	S. A. Cohen, Council Bluffs	J. B. Synhorst, Des Moines
Poweshiek	T. E. Brobyn, Grinnell	E. S. Korfmacher, Grinnell	G. N. Best, Council Bluffs
Ringgold	O. L. Fullerton, Redding	J. W. Hill, Mt. Airy	C. E. Harris, Grinnell
Sac	J. W. Gauger, Early	C. E. Lierman, Lake View	E. J. Watson, Diagonal
Scott	J. H. Sunderbruch, Davenport	M. J. Brown, Davenport	J. R. Dewey, Schaller
Shelby	C. V. Bisgard, Harlan	A. J. Ryan, Harlan	A. P. Donohoe, Davenport
Sioux	C. O. Oelrich, Sioux Center	C. B. Murphy, Alton	Wm. Doornink, Orange City
Story	J. G. Fellows, Ames	W. B. Armstrong, Ames	Bush Houston, Nevada
Tama	H. S. Bezman, Traer	A. J. Havlik, Tama	A. A. Pace, Toledo
Taylor	G. W. Rimel, Bedford	J. H. Gasson, Shenandoah	G. W. Rimel, Bedford
Union	A. S. Beatty, Creston	C. E. Sampson, Creston	C. C. Rambo, Creston
Van Buren	R. E. Olson, Milton	L. A. Coffin, Farmington	L. A. Coffin, Farmington
Wapello	W. N. Whitehouse, Ottumwa	E. B. Hoeven, Ottumwa	C. A. Henry, Farson
Warren	E. E. Shaw, Indianola	C. H. Mitchell, Indianola	C. H. Mitchell, Indianola
Washington	M. L. McCreedy, Washington	W. S. Kyle, Washington	E. D. Miller, Wellman
Wayne	J. H. McCall, Allerton	C. F. Brubaker, Corydon	J. H. McCall, Allerton
Webster	C. J. Baker, Fort Dodge	M. W. Burlison, Fort Dodge	H. E. Nelson, Dayton
Winnebiek	R. N. Svendsen, Decorah	R. M. Dahlquist, Decorah	L. C. Kuhn, Decorah
Woodbury	R. T. Rohwer, Sioux City	E. H. Sibley, Sioux City	D. B. Blume, Sioux City
Worth	S. S. Westly, Manly	G. S. Westly, Manly	S. S. Westly, Manly
Wright	E. M. Smith, Eagle Grove	J. R. Christensen, Eagle Grove	J. H. Sams, Clarion

*Changes in names of officers are made upon receipt of the county secretary's election report. Hence, for those counties for which no report has as yet been received, the 1947 officers' names are herein included.

VETERANS ADMINISTRATION

DEPARTMENT OF RADIOLOGY

Due to the integral relationship between radiology and the other major services, the x-ray department at the Des Moines hospital is a necessarily active one. The department strives to offer the best in diagnostic assistance and therapeutic care for the veteran. An ample volume of teaching material provides the resident physician with a necessary insight into the value of radiology.

Active medical and surgical services demand a large number of routine and special film studies. In a teaching hospital, it is also necessary to provide studies of academic interest. During the fiscal year 1947, there were 30,991 examinations. The total number of examinations indicate that approximately 2,582 patients are examined each month, or better than 93 examinations daily. The daily schedule includes an average of ten or more gastro-intestinal series performed with both fluoroscopic and film study. This work load was accomplished efficiently by a staff of seven trained technicians. The x-ray equipment is fully modern and sufficient to meet the demands of a heavy daily schedule. Also, the apparatus is versatile and may be adapted for use in performing whatever special technics may be required.

Authorization has been granted for the appointment of one radiology resident yearly to a total of three. At present, one resident has begun the three year training period required by the American Board of Radiology for certification in this specialty. The next appointment will be for the fiscal year 1949. Training in diagnostic roentgenology can be carried out only when a large number of film examinations are available for study. In addition, a high incidence of pathologic entities must be encountered. Both qualifications are met in the teaching program as presented at this hospital. An active didactical schedule is further augmented by coordination with surgical, medical and pathology teaching. The program also maintains a close affiliation with the State University of Iowa.

A recent directive designated the Des Moines hospital a tumor center. As a result, modern therapy equipment is now being installed to han-

dle the therapeutic work-load. Since organization of the tumor clinic, all types of malignancies have been seen. The management of malignant disease has become increasingly important in modern medicine, and since radiation therapy in some form enters the therapeutic regimen so prominently, it would be a serious error to exclude this phase even from the medical and surgical resident.

It is hoped, that by a teaching program, the Department of Radiology may provide better care for the veteran, and eventually lead to a more thorough understanding by the physician of the position the radiologist occupies in modern medical practice.

Chris A. Voelker, M.D., Chief, X-ray Division

NEW RESIDENT TRAINING PROGRAM AT S.U.I.

Dr. Wilbur R. Miller, Head of the Department of Psychiatry, College of Medicine, and Director of the Psychopathic Hospital, State University of Iowa, announces that a new resident training program in psychiatry, organized by Paul E. Huston, M.D., assistant professor in the Department of Psychiatry, will be in effect July 1, 1948.

This program is designed primarily to meet two objectives: to train physicians for the practice of psychiatry as a specialty and teachers and research workers in the field of psychiatry. A plan of supervised clinical experience and didactic courses has been arranged. The clinical experience includes rotation through the inpatient and outpatient service (both adult and children) of the Psychopathic Hospital, the psychosomatic service in the University General Hospital, and University Student Health Service.

The didactic courses will be given by the staff of the Department of Psychiatry, and by the Departments of Anatomy, Neurology, Child Welfare, Psychology and Sociology. A group of elective courses from the University and the College of Medicine are also available to meet individual needs and interest of the participants. Candidates who complete the program and who write an accepted research dissertation, will be awarded the degree of Master of Science in Psychiatry by the Graduate College.

Ordinarily the instruction will cover a period of three years, but physicians who wish shorter periods of training, or do not desire to become candidates for the degree, may make special arrangements. Information concerning the details of the program may be secured from P. E. Huston, M.D., Psychopathic Hospital, Iowa City.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. ALLAN G. FELTER, Van Meter

President-elect—MRS. CHARLES A. NICOLL, Panora

Secretary—MRS. ROGER M. MINKEL, Fort Dodge

Treasurer—MRS. M. A. ROYAL, 1138 Thirty-seventh Street, Des Moines 11

PLANS AND OBJECTIVES FOR THE YEAR 1948-1949

The following objectives and plans are submitted for your consideration and approval; as outlined, the year's work will be a continuation program with a few new ideas as to plan.

The Woman's Auxiliary to the Iowa State Medical Society shall strive to:

1. Promote harmony and friendship among doctors' families through:
 - A. Unity of effort.
 - B. Social activity.
2. Effect a more closely knit organization by:
 - A. Promoting county organizations wherever possible—even very small groups.
 - B. Encouraging membership at large where organization cannot be effected.
 - C. Stressing 100 per cent attendance of board members at called meetings.
 - D. Dividing the state into districts with an assigned councilor.
3. Assume an active role in the field of public relations on local, county and state levels and assist in the following projects:
 - A. Cancer program.
 - B. Crippled children.
 - C. Nurse recruitment.
 - D. Nurses' loan fund.
 - E. Other health programs as opportunities occur. (Program of work should be suited to local needs.)
4. Increase *Hygeia* subscriptions for the purpose of educating the laity by placing it in:
 - A. Homes.
 - B. Business houses.
 - C. Schools (with the hope of having *Hygeia* approved as supplementary reading in high schools).
5. Know the viewpoint of the medical profession on:
 - A. Proposed medical legislation for the purpose of serving as liaison between the profession and the public.
 - B. Prepaid medical service plans and their benefits to the public, to meet the threat of socialized medicine.
6. Know your organization by reading:
 - A. *National Bulletin*.
 - B. *State Woman's Auxiliary News*.
7. Assist county auxiliary units with their programs with suggested:

- A. Program plans.
- B. Source materials.
- C. Available speakers.

Besides the above objectives the following suggestions are made as helps in carrying out these objectives:

1. Committee chairmen should meet with their committee members as soon as possible after the annual meeting to plan the work of the year.
2. Committee chairmen should submit to the president by September 1 their plans to form a leaflet so that each board member may have an over-all picture of the aims for the year.
3. A library of materials should be started for use of auxiliaries and members at large in program building.
4. Handbook of duties and materials for chairman of standing committees.

With the hope that the Auxiliary may enjoy a year of growth and accomplishment, the above plan is respectfully submitted.

Mrs. Allan G. Felter, President-elect

RESOLUTIONS

Whereas, the Woman's Auxiliary to the Iowa State Medical Society has been the recipient of many courtesies:

Be It Resolved, that the Woman's Auxiliary express its appreciation to those who have extended their hospitality to us, to the convention committee chairman and co-chairman, Mrs. Harold J. McCoy and Mrs. James E. Dyson, president of the Polk County Medical Auxiliary, and to their committee: Mrs. Edward J. Harnagel, registration; Mrs. Harry W. Dahl, reservations; Mrs. Thomas Bond, ushers; Mrs. Dwight C. Wirtz, publicity; and Mrs. Loren K. Meredith, hostesses; and

Be It Further Resolved, that appreciation be expressed to Mrs. Eustace A. Allen, president of the Woman's Auxiliary to the American Medical Association for the charm of her presence, her inspirational address and general helpfulness; to Dr. Harold A. Spilman, president of the Iowa State Medical Society and Dr. James E. Reeder, president-elect of the Iowa State Medical Society for their greetings and service as advisory councilors to the Auxiliary; to Dr. Lester D. Powell, president of the Polk County Medical Society for greetings; to Dr. Elmer L. Henderson and to Dr. Fred Sternagel and Miss Marie Neuschaefer, president of the Iowa State

Nursing Association for their informative addresses; to the Board of Trustees for its financial support; to Miss Mary McCord and Miss Viola Turner of the office staff of the Iowa State Medical Society; to the press for its courtesy and consideration; to the Savery Hotel for its generous accommodations; to our president, Mrs. Fred Moore, who has served with distinction and outstanding efficiency during the past year; to Mrs. A. G. Felter, president-elect; to the four vice presidents—Mrs. J. H. Chittum, Mrs. E. H. Sibley, Mrs. F. A. Rolfs, Mrs. M. A. Armstrong; Mrs. C. A. Nicoll, secretary; Mrs. M. A. Royal, treasurer; Mrs. J. A. Downing, parliamentarian; to Mrs. H. I. McPherrin for her memorial service; to Mrs. E. T. Warren, chairman, Mrs. H. I. McPherrin and Mrs. W. R. Hornaday for their hours of labor on the revised by-laws; to all chairmen of standing committees and their committees for work engaged in during the year; and to all those unidentified persons whose thoughtfulness has made our convention a success.

Mrs. K. M. Chapler, Chairman
Mrs. C. H. Mitchell
Mrs. M. H. Brinker

STANDING COMMITTEES FOR THE YEAR 1948-1949

Archives—Mrs. Arthur E. Merkel, Des Moines; Mrs. Charles A. Nicoll, Panora; Mrs. William A. Seidler, Jamaica; Mrs. Fred Moore, Des Moines.

Finance—Mrs. James E. Reeder, Sioux City; Mrs. Malcolm A. Royal, Des Moines; Mrs. William R. Hornaday, Des Moines.

Hygeia—Mrs. James S. Jackson, Mt. Pleasant; Mrs. John F. Veltman, Winterset; Mrs. Donald H. Kast, Des Moines; Mrs. Elmer L. Lampe, Bellevue; Mrs. Roscoe M. Needles, Atlantic; Mrs. A. I. Reed, Estherville.

National Bulletin—Mrs. Edwin T. Thorsness, Dubuque; Mrs. Berdet F. Osten, Northwood; Mrs. J. B. Sindelar, Minden; Mrs. Leo C. Nelson, Jefferson; Mrs. Arthur S. Bowers, Orient.

Organization—Mrs. Roger M. Minkel, Fort Dodge; Mrs. Fred A. Rolfs, Aplington; Mrs. Donald F. Rodawig, Spirit Lake; Mrs. William S. Reiley, Red Oak; Mrs. John H. Chittum, Wapello; Mrs. Thomas E. Gutch, Albia; and Councilors Mrs. Fred Moore, Des Moines; Mrs. M. E. Hennessy, Iowa City; Mrs. Soren S. Westly, Manly; Mrs. William A. Seidler, Jamaica; Mrs. Jay C. Decker, Sioux City.

Program—Mrs. Lonnie A. Coffin, Farmington; Mrs. Howard H. Smead, Des Moines; Mrs. Ivan K. Sayre, St. Charles; Mrs. George H. Clark, Oska-loosa; Mrs. Emerson B. Dawson, Fort Dodge; Mrs. Earl L. Keyser, Marshalltown.

Publications—Mrs. Keith M. Chapler, Dexter; Mrs. Henry I. McPherrin, Des Moines; Mrs. Charles A. Nicoll, Panora. (The secretary or publicity chairman of each county auxiliary should consider herself a member of the Publications Committee to report all meetings and activities of her group.)

Public Relations—Mrs. James E. Whitmire, Sumner; Mrs. Joseph G. Kruml, Council Bluffs; Mrs. Harold Morgan, Mason City; Mrs. B. J. Lachner, Des Moines; Mrs. Claire H. Mitchel, Indianola; Mrs. James A. Downing, Des Moines.

Nurse Recruitment—Mrs. Howard W. Smith, Woodward; Mrs. Louis F. Talley, Marshalltown; Mrs. Ira N. Crow, Fairfield; Mrs. Walter P. Hombach, Council Bluffs; Mrs. Harry H. Lamb, Davenport; Mrs. Fred Moore, Des Moines.

Nurses Loan Fund—Mrs. William R. Hornaday, Des Moines; Mrs. Frank W. Fordyce, Des Moines; Mrs. Howard W. Smith, Woodward; Mrs. Harry E. Ransom, Des Moines; Mrs. B. F. Kilgore, Des Moines; Mrs. John F. Veltman, Winterset; Mrs. Frank A. Wilke, Perry.

Crippled Children—Mrs. Marion H. Brinker, Jefferson; Mrs. F. Eberle Thornton, Des Moines; Mrs. Mathew J. Moes, Dubuque; Mrs. Howard I. Down, Sioux City.

Revisions—Mrs. Elbert T. Warren, Stuart; Mrs. Henry I. McPherrin, Des Moines; Mrs. Jay C. Decker, Sioux City; Mrs. Soren S. Westly, Manly; Mrs. Fred Moore, Des Moines; Mrs. William S. Reiley, Red Oak.

IOWA PUBLIC HEALTH ASSOCIATION MEETING

The twenty-first annual meeting of the Iowa Public Health Association was held May 27 and 28 at the Hotel Savery, Des Moines. Your president, together with Mrs. Fred Moore, councilor, Mrs. Howard Smith, chairman of nurse recruitment, and Mrs. J. E. Whitmire, chairman of public relations, attended the program sessions.

On Thursday different phases of "Public Relations" were considered, including the improvement and the psychology of public relations with an address by Dean M. Smiley, M.D., consultant in health and physical fitness, American Medical Association, and a symposium directed by L. C. Murray, Division of Public Health Education, Iowa State Department of Health. Other topics under consideration were "How your Community Benefits from County Boards of Health" and "The Handling of Local Health Problems." "Mental Hygiene," the last topic, was discussed by James F. Maddux, M.D., psychiatric consultant, U. S. Public Health Service, Kansas City, Mo. Friday was given over to the consideration of sanitation in respect to water, dairy products and foods, and the presentation of research findings in the use of fluorine in drinking water to prevent dental caries.

Those of us who found it possible to attend gleaned much interesting and useful information and acquired a better understanding of the work that is being done within the State to protect our health. The Woman's Auxiliary appreciates the cordial invitation of the Iowa Public Health Association to attend this meeting.

Mrs. Allan G. Felter, President

HELEN HAYES FEATURED IN SPECIAL RECRUITMENT TRAILER

The long-felt and much-expressed need for a recruitment film that could be used by local movie theaters has been satisfied with the completion of a special trailer featuring Miss Helen Hayes, stage, screen, and radio star. Miss Hayes donated her talents for the film, prepared expressly for the Greater New York Hospital Association through the generosity of Mr. Spiros Skouras of Twentieth Century Fox and the American Hospital Association. The preparation of an additional five hundred prints of the film has been made possible through financial contributions to the recruitment campaign. Entitled, "Helen Hayes Inaugurates the Hospital Careers Campaign," the trailer runs approximately two and one-half minutes. It is being distributed by the Theater Owners Association of America, 1501 Broadway, New York.

If there is a theater in your community, visit the manager and let him know that this trailer is available, so that he will be on the watch for it. Ask him to let you know when it arrives and when he plans to show it. When you hear from him, be sure to pass the word on to local newspapers. Furthermore, inform members of your hospital auxiliary or any other local civic organization that is assisting you with recruitment. In short, stir up as much interest in the film as you can. You might, in addition, plan a special display in the foyer of the theater. The theater would be an excellent place to display the recruitment poster and to distribute the mailing pieces to interested young women. Take advantage of Miss Hayes' movie appeal on behalf of the recruitment program. Capitalize on it to call attention to the opportunities for students and nurses at your own nursing school and hospital.

Mildred Riese, R.N., Chairman,
1948 Student Nurse Recruitment Committee

ANNUAL REPORT OF COMMITTEE ON ORGANIZATION

Number of paid members at beginning of year, 451; number of paid members at close of year, 615.

Members at large at beginning of year, 77; members at large at close of year, 140.

Number of auxiliaries at beginning of year, 15; number of auxiliaries at close of year, 23.

Upper Des Moines: Warren County, November; Henry County, March; Mahaska County, March; Cass County (reorganized), April; Pottawattamie County (reorganized), April; Delaware County, April; Emmet County.

Number of new organizations, 8; number auxiliaries disbanded, none.

Number county medical societies, 97 (two groups of two-county combination); total membership State Medical Society, 2,376.

Type of organization work: letters: one by Dr. Spilman, president, State Medical Society, sent to councilors and deputy councilors; also one by Mrs.

Moore, president of State Auxiliary, to all doctors' wives, members at large, and article "Answers to your Questions about the Auxiliary." Indefinite number of letters by all members of this committee. Personal contact calls and meeting with groups of doctors' wives called together for other purposes.

Much of the work which has been accomplished this year must be accredited to our state president, Mrs. Moore, who has been most untiring and helpful through the year.

Suggestions: A special state organizer with all expenses paid and remuneration. Doctors' wives should have more definite information as to the meaning of Public Relations and how this division might be forwarded.

Mrs. John H. Chittum, First Vice President
Mrs. M. A. Armstrong
Mrs. Fred A. Rolfs

ANNUAL REPORT OF PROGRAM COMMITTEE

A survey done in the fall of 1947 showed that the Auxiliaries had much work to do if they were to meet the challenge of the doctors who feel that we must stand between the layman and the medical profession. Ours is an obligation to interpret the principles and aims of the physician to the public by educating ourselves through the use of good programs.

The suggestions for programs were printed in the January and February, 1948 issues of the "Woman's Auxiliary News." The program stressed "a course of action" as well as "entertainment" in the belief that "informed and alert membership" should be the goal of every Auxiliary program. There were programs suggested on legislation, health and public relations, the history of the American Medical Association and the Auxiliary. Community leadership should be assumed by doctors' wives in counties on all health problems.

Recommendations for the 1948-1949 program:

1. That the basic objectives set out in this year's program be used again:

To mould public opinion with correct information.

To know what the medical profession means to the human race.

To learn what the community can do to improve its health by understanding work of existing services of other groups and evaluating community needs.

To be prepared to discuss public health matters.

To build a feeling of friendship between doctors and wives.

2. That the program committee mail to each Auxiliary a detailed program outline with resource material listed. This should be done in spring of the year after state meeting.

3. That a mimeograph copy of program aims and objectives and where to obtain resource material be sent to each Auxiliary member for her use in her medical group or other organizations where she would be dealing with health projects.

Mrs. Roger M. Minkel, Program Chairman

ACTIVITIES OF COUNTY AUXILIARIES

The Butler County Medical Auxiliary re-elected officers as follows: Mrs. H. G. MacLeod, president; Mrs. E. M. Mark, vice president; Mrs. B. V. Andersen, secretary-treasurer. Dinner meetings with the doctors are held monthly. Mrs. Fred Rolfs of Aplington is Butler County chairman for the nurse recruitment program. The movie was secured and talks were given in Parkersburg and Aplington. The following programs have been presented: "Philosophy of the Medical Service Plan"; "How to Hold Your Own Against Ulcers;" "What You Should Know About Diabetes." At a recent meeting we enjoyed movies of one of the doctor's trip to Cuba and Honduras.

Mrs. B. V. Andersen, Secretary

The Greene County Medical Society and Woman's Auxiliary met together for dinner at the Dutch Mill in Jefferson, May 20. The following officers were elected at the business meeting after dinner: Mrs. L. C. Hansen of Jefferson, president; Mrs. John R. Black of Jefferson, vice president; Mrs. J. I. Lindburg, Jr., of Jefferson, secretary-treasurer. Interesting pictures were enjoyed by the group.

Mrs. R. E. Parry, Retiring President

The Pottawattamie County Medical Auxiliary met for dinner at the Hotel Chieftain, Council Bluffs, May 26. Twenty-seven of the thirty members were present at this first regular meeting since before the war. Mrs. I. Sternhill, president, appointed committees for the coming year. Mrs. W. B. Hombach and Mrs. Sindelar will have charge of the nurse recruitment program. Mrs. Donald Hennessy, vice president, reported on the state convention and presented a \$100 check from the Council Bluffs Service League for the Student Loan Fund. Though no formal meetings were held during the war years, the Auxiliary sewed and made surgical dressings at either Jennie Edmundson or Mercy Hospital weekly.

Mrs. F. H. Beaumont, Publication

DID YOU KNOW?

"That state and county medical societies are now forming committees to work with the Council on National Emergency Medical Service of the American Medical Association in preparing the civilian population for atomic, biologic or chemical attack by a foreign power on this nation. Governors of thirty-seven states replied to a survey made by the Council asking information in regard to the planning and organization of state disaster service.

"The one great challenge confronting American medicine and the Congress of the United States today is the proper and adequate provision for the care of the great number of civilian casualties that are promised if World War III is to come," said James C. Sargent, M.D., chairman of the Council on National Emergency Medical Service of the American Medical Association at a recent congressional hearing . . .

"Iowa State Medical Society reports that a committee on National Emergency Medical Service was set up and the following appointments made: R. D. Bernard, M.D., chairman, Clarion; D. C. Conzett, M.D., Dubuque; E. L. Rohlf, Jr., M.D., Waterloo; and E. S. Korfmacher, M.D., Grinnell."—From the June 4 *News Letter of the Council on Medical Service of the American Medical Association*.

NURSING FACTS*

1. *What Is the Nursing Distribution Problem?*

The acute nation-wide "shortage" of professional nurses is aggravated by the fact that the existing nursing force is not equitably distributed among rural and urban areas. In addition, the best capabilities of registered nurses are not being efficiently utilized.

2. *What Brought on the Nursing "Shortage"?*

Today there are more registered professional nurses in the active service of the public than there ever were before. It was the great increase, over the last decade, in the demand for nurses that caused the present paradoxical situation: though the ranks of the profession have been enlarged, there still are not enough nurses to go around.

3. *How Has the Demand for Nursing Service increased?*

Between 1936 and 1946, the number of yearly hospital admissions increased by 75 per cent, reaching the figure of 15,153,452 admissions during the latter year. One out of every ten Americans was hospitalized in 1947, which meant that the hospital admission rate was one for every two seconds.

4. *Has the Growing Birth Rate Added to Hospital Loads?*

Definitely. Hospital births increased by 157 per cent in the decade from 1936 to 1946. Also, two American babies out of every three are now born in hospitals, further increasing the need for nurses.

5. *What About Prepaid Hospital Plans?*

More than 40,000,000 citizens of the United States belong to the Blue Cross and similar hospital insurance groups, which have mushroomed enormously since 1937. The membership of the Blue Cross alone has increased elevenfold in that time.

6. *What Else Has Contributed to the Skyrocketing Demand for Nurses?*

The broad program of medical and nursing care extended to veterans and their families through the Veterans Administration; new methods of treatment, involving new drugs and new equipment; the widening of professional nursing service to include the fields of psychiatry, tuberculosis, heart disease, cancer and public health.

7. *To What Can the Demand be Attributed?*

Health education programs, carried on through schools and industrial plants, are bearing fruit. The general public has accepted the principles of preventive medicine, which call for regular check-ups, early treatment and the use of clinical facilities.

*Contributed by the American Nurses Association through the publication, "Nursing Distribution Fact Sheet."

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

THE ACUTE BACTERIAL DISEASES—Their Diagnosis and Treatment—By Harry F. Dowling, M.D., F.A.C.P., Clinical Professor of Medicine, George Washington University; Chief, George Washington Medical Division, Gallinger Municipal Hospital; with the collaboration of LEWIS K. SWEET, M.D., Chief Medical Officer in Pediatrics and Infectious Diseases, Gallinger Municipal Hospital; Adjunct Clinical Professor of Pediatrics, George Washington and Georgetown Universities; and HAROLD L. HURSH, M.D., Assistant Professor of Medicine, Georgetown University; Director of the Bacteriology and Immunology Laboratory, Georgetown University Hospital. W. B. Saunders Company, Philadelphia, 1948. Price, \$6.50.

THE BATTLE OF THE CONSCIENCE—A Psychiatric Study of the Inner Working of the Conscience—By Edmund Bergler, M.D., Washington Institute of Medicine, Washington, D. C., 1948. Price, \$3.75.

A HISTORY OF THE HEART AND THE CIRCULATION—By Fredrick A. Willius, M.D., M.S., in Med., Senior Consultant in Cardiology, Mayo Clinic; Professor of Medicine, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota; and THOMAS J. DRY, M.D., Ch.B. in Med., Consultant, Section on Cardiology, Mayo Clinic; Associate Professor of Medicine, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota. W. B. Saunders Co., Philadelphia, 1948. Price, \$8.

HISTORY OF THE MEDICAL SOCIETY OF THE COUNTY OF WESTCHESTER, 1797-1947—A compilation from the available minutes of the Society and various contemporary sources during the years for which the minutes were lost. Published by the Medical Society of the County of Westchester, 1947.

MODERN CLINICAL PSYCHIATRY—By Arthur P. Noyes, M.D., Superintendent, Norristown State Hospital, Norristown, Pa. W. B. Saunders Co., Philadelphia, 1948. Price, \$6.

NEUROANATOMY—By Fred A. Mettler, A.M., M.D., Ph.D., Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University, New York. Second edition. The C. V. Mosby Company, St. Louis, 1948. Price, \$10.

PHYSIOLOGY OF EXERCISE—By Laurence E. Morehouse, Ph.D., Associate Professor of Physical Education, the University of Southern California; Formerly Research Fellow, Harvard Fatigue Laboratory; and AUGUSTUS T. MILLER, JR., Ph.D., Associate Professor of Physiology, University of North Carolina Medical School. The C. V. Mosby Company, St. Louis, 1948. Price, \$4.75.

SYNOPSIS OF PEDIATRICS—By John Zahorsky, A.B., M.D., F.A.C.P., Professor of Pediatrics and Director of the Department of Pediatrics, St. Louis University School of Medicine, and Pediatrician-in-Chief to the St. Mary's Group of Hospitals; Fellow of the American Academy of Pediatrics; assisted by T. S. Zahorsky, B.S., M.D., Senior Instructor in Pediatrics, St. Louis University School of Medicine, and Assistant Pediatrician to the St. Mary's Group of Hospitals. Fifth edition. The C. V. Mosby Company, 1948. Price, \$5.50.

A TEXT-BOOK OF PATHOLOGY—By William Boyd, M.D., Dipl., Psych., M.R.C.P., Edin., F.R.C.P., Long., LL.D., Sask., M.D., Oslo, F.R.S.C., Professor of Pathology and Bacteriology of the University of Toronto, Toronto. Fifth edition, thoroughly revised. Lea & Febiger, Philadelphia, 1947. Price, \$10.

TREATMENT OF HEART DISEASE—By William A. Brams, M.S., M.D., Ph.D., Associate Professor of Medicine, Northwestern University Medical School, and Attending Physician, Michael Reese Hospital, Chicago. W. B. Saunders Co., Philadelphia, 1948. Price, \$3.50.

VASCULAR DISEASES IN CLINICAL PRACTICE—By Irving Sherwood Wright, M.D., Associate Professor of Clinical Medicine, Cornell University Medical College; Chief of Section on Vascular Diseases of the Department of Medicine, New York Hospital. The Year Book Publishers, Inc., Chicago, 1948. Price, \$7.50.

THE 1947 YEAR BOOK OF PATHOLOGY AND CLINICAL PATHOLOGY—Edited by Howard T. Karsner, M.D., Professor of Pathology, Director of the Institute of Pathology, Western Reserve University, Cleveland. Assistant Editor—HERBERT Z. LUND, M.D., Assistant Professor of Pathology, Western Reserve University, Cleveland; **CLINICAL PATHOLOGY** edited by ARTHUR HAWLEY SANFORD, M.D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation); Senior Consultant, Division of Clinical Laboratories, Mayo Clinic. The Year Book Publishers, Inc., Chicago, 1948. Price, \$3.75.

YOU AND YOUR DOCTOR—A Frank Discussion of Group Medical Practice and Other Modern Trends in American Medicine—By Benjamin F. Miller, M.D., Clinical Professor of Medicine, George Washington Medical School; Research Associate in Medicine, National Research Council; formerly associated with the University of Chicago Clinics and the United States Public Health Service. Whittlesey House, McGraw-Hill Book Company, Inc., New York. Price, \$2.75.

BOOK REVIEWS

A TEXTBOOK OF CLINICAL NEUROLOGY

With an Introduction to the History of Neurology—By Israel S. Wechsler, M.D., Clinical Professor of Neurology, Columbia University, New York; Neurologist, The Mount Sinai Hospital; Consulting Neurologist, Montefiore Hospital and Rockland State Hospital, New York. Sixth edition. W. B. Saunders Co., Philadelphia, 1947. Price, \$8.50.

In this latest edition of Wechsler, the reviewer has noted the following revisions:

In the realm of diagnostic aids, the section pertaining to "Psychological Diagnosis" has been revised and a brief description of the psychologic tests in current usage and their clinical application is included.

In the section pertaining to "Peripheral Nerves," the author suggests the terminology "peripheral neuropathy" in preference to "neuritis," pointing out in the majority of cases of so-called "peripheral neuritis" evidence of inflammatory reaction rarely

occurs and degenerative changes predominate. A description of peripheral nerve changes in pleggia is included. Porphyria polyneuropathy (congenital or as the result of drugs, especially barbiturates) is described.

The section on treatment of meningitis has been revised, and chemotherapy with sulfa drugs and penicillin is discussed. Several additional types of encephalitis are described—hemorrhagic, arsphenamine encephalitis, toxoplasmic encephalomyelitis, pertussis encephalitis or encephalopathy. Included with the description of epidemic encephalitis is encephalomyelitis and the Guillain Barre syndrome.

The treatment of syphilis of the central nervous system with hyperpyrexia in the form of diathermy, vapothermy or radiotherapy is discussed. The author advocates continued use of other antisiphilitic treatment following any form of fever therapy and also following penicillin.

An addition to the extra pyramidal syndromes previously described is kernicterus. Clinically these infants may show mental deficiency, emotional in-

stability, stupor, convulsions, cerebellar dysfunction and dyskinesias with termination in a short time, or it may occur in more chronic form. It is thought kernicterus is the result of incompatibility of the Rh negative blood of the mother and Rh positive blood of the fetus. Prophylaxis depends on the transfusion of the proper type of blood into the newborn infant when a negative Rh factor is found in the expectant mother.

New drugs (tridione, mebarol, dilantin, ephedrine, benzedrine) in the treatment of epilepsies are discussed. The author emphasizes the need for consistent medication and for adjustment of dosage as indicated by the clinical responses of the patient.

Several revisions have been made in the descriptive section pertaining to the autonomic nervous system, illustrated by new diagrams of sympathetic and parasympathetic connections.

J.P.

TREATMENT BY DIET

By Clifford J. Barborka, B.S., M.S., M.D., D.Sc., F.A.C.P., Assistant Professor of Medicine, Northwestern University Medical School, Chicago; Attending Physician, Passavant Memorial Hospital; Consultant in Gastro-enterology and Gastroscopy, Diagnostic Center, Hines Veterans Hospital; Formerly Consulting Physician, The Mayo Clinic. Fifth edition. J. B. Lippincott Company, Philadelphia, 1948. Price, \$10.

Doctor Barborka is to be congratulated on accomplishing what he set out to do, namely, providing the practicing physician with readily available dietary fundamentals and procedures. The book first briefly, but adequately, discusses the normal diet requirements. Following this is a detailed presentation of the principles and application of diet in various pathologic conditions. This section is comprised largely of clearly presented diets, representing various dietary phases of the subject under discussion. No attempt was made to sacrifice clarity for space. Emphasis was placed on the importance and availability of the vitamins in health and sickness. Diabetes is thoroughly presented with many diet lists of various compositions. The treatment of obesity is likewise presented in a practical manner.

This text is a ready reference for the general practitioner as well as the specialist and should be a component of every physician's library.

G.E.M.

PSYCHOBIOLOGY AND PSYCHIATRY

A Textbook of Normal and Abnormal Behavior—By Wendell S. Muncie, M.D., Practicing Psychiatrist; Chairman, Medical Advisory Board, Seton Institute, Baltimore, Md.; Associate Professor of Psychiatry, Johns Hopkins University; Consultant in Psychiatry, U.S.V.A. Second edition. The C. V. Mosby Co., St. Louis, 1948. Price, \$9.

This second edition has been changed to present those concepts of psychiatry which the author has found to be most useful in his private practice. The material is presented in three parts: (1) concept of psychobiology and the fundamentals of human behavior; (2) a discussion of the Meyerian terminology and the pathology of human behavior; (3) the treatment of abnormal behavior reactions.

The historical appendices of the first edition has been deleted and may be considered a loss in that this part of the first edition was an excellent source for reference to the chronologic development of psychiatry. This loss is lessened by the many references to the other schools of psychiatry in the book being described in a brief but informative manner.

The subject matter is presented primarily for the use of students with no attempt made to present child psychiatry. The text presents the Meyerian concept of psychobiology and psychiatry in a clear and informative manner and is an excellent study or reference book.

J.W.D.

SYNOPSIS OF OBSTETRICS AND GYNECOLOGY

By Aleck W. Bourne, M.A., M.B., B.Ch. (Camb.), F.R.C.S. (Eng.), F.R.C.O.G., Consulting Obstetric Surgeon, Queen Charlotte's Hospital, London; Obstetric Surgeon, St. Mary's Hospital, London; Consulting Surgeon, Samaritan Hospital for Women; Examiner in University of Cambridge; formerly Examiner to Central Midwives Board, and Conjoint Board of England. Ninth edition. The Williams and Wilkins Company, Baltimore, 1945. Price, \$5.

This book is truly a synopsis. All of the subjects are presented in outline form with a minimum of discussion. It is divided into two sections, one covering obstetrics and one covering gynecology. The general outline of subject matter is very similar to the standard text in these two fields.

Each subject is covered in the following outline form:—definition, causes, pathology, symptoms, diagnosis, prognosis, and treatment. As the author states in his preface, this book is not intended to serve as a text. The discussions are too brief to be of value unless the reader has a fairly thorough knowledge of the subject. It does serve as a very well organized outline to refresh one's memory and to provide a rapid, ready reference for a quick review of any subject. This book is written by an Englishman and has an interesting style. Although it differs in many small details from the accepted American practices, the basic fundamentals are the same as in most of our American texts.

This synopsis should be of value as a quick reference in an office and as an aid to the analysis of a group of signs and symptoms.

P.K.H.

SOCIETY PROCEEDINGS

MEETINGS

Black Hawk County

The regular meeting of the Black Hawk County Medical Society was held at the Elks' Club on June 15 at 6:30 p. m. Dr. T. J. Wachowski, Associate Professor of Radiology at the University of Illinois, spoke on "Recent Advances in Radiation Therapy."

Calhoun County

The doctors of Manson were hosts to the Calhoun County Medical Society at a dinner in the Manson Hotel May 20. Following the dinner moving pictures were shown and Dr. Walter Fieseler of Fort Dodge addressed the group.

Delaware County

Members of the Delaware County Medical Society and the Auxiliary met May 12 for dinner at the Glen-Charles Hotel, Manchester. Dr. Claude B. Rogers of Earlville was guest of honor in recognition of the completion of fifty years of service to the profession. The scientific program consisted of a talk by Dr. Morgan Foster of Cedar Rapids on "Intussusception" and one by Dr. Walter M. Block of the same city on "Recent Advances in Pediatrics."

Fayette County

The Fayette County Medical Society held its May meeting at West Union. After a dinner and brief business meeting Dr. Donald Conzett of Dubuque presented a paper and series of x-ray pictures on cases having "Fractures in and around the Elbow Joint."

The June meeting of the Fayette County Medical Society was held at the Country Club at West Union, being a joint meeting with the Auxiliary. Following the business session, Don Taylor, Field Secretary of the Iowa State Medical Society, spoke on "Public Relations and Medical Service."

Iowa-Illinois Central District Medical Association

At the annual meeting of the Iowa-Illinois Central District Medical Association, held in Hotel Blackhawk, Davenport, on May 26, Dr. George W. Cusick of Davenport was chosen president-elect. Other Iowa men elected to office were: Dr. James Dunn, Davenport, secretary; Dr. J. H. Sunderbruch, Davenport, second assistant secretary; and Dr. Arthur A. Gar-side, Davenport, censor.

Pottawattamie County

Dr. Walter D. Abbott of Des Moines spoke at the May dinner meeting of the Pottawattamie County Medical Society held May 18 at Hotel Chieftain,

Council Bluffs. His subject concerned the diagnosis of brain abnormalities by use of radio-opaque substances injected into arteries.

Washington County

The Washington County Medical Society held a meeting May 27 in the Nurses' Home, Washington. Following a 6:30 p. m. dinner, Dr. Wilbur R. Miller of the Psychopathic Hospital, Iowa City, gave an informal talk on "What Physicians Should Know About Psychopathic Problems."

Webster County

The regular monthly meeting of the Webster County Medical Society was held in the Wahkonsa Hotel ballroom following dinner June 10. After a short business meeting, Dr. A. E. Osterburg of Chicago discussed the "Role of Protein Metabolism, Amino Acids and Vitamins in Nutrition." Dr. Osterburg, formerly director of Research in Nutrition at the Mayo Clinic, is now associated with the research department of Abbott Laboratories.

PERSONALS

Dr. Robert Allen joined Dr. Frank Ober in the practice of medicine in Burlington on June 15. Dr. Allen, who is a graduate of the College of Medicine, State University of Iowa, was discharged from the Army Medical Corps on June 7.

Dr. Leon H. Flancher of the State Department of Health spoke at the Tama County Tuberculosis Association's annual meeting May 10.

Dr. Emil Fullgrabe of Sioux City spoke on "Cancer" at a combined luncheon meeting of the Kiwanis and Rotary Clubs of Cherokee May 24.

Dr. Russell S. Gerard of Waterloo recently returned from a two week tour of England, Scotland and Ireland where he investigated socialized medicine as a representative of the North American Physicians and Surgeons Association.

Dr. D. K. Haggar has become affiliated with Dr. F. F. Null in medical practice in Hawarden. Dr. Haggar has been practicing in Akron, Ohio, since his discharge from the army two years ago.

Dr. John E. Hartsaw, who has been associated with the Sigourney Hospital since October, 1946, has entered private practice in that city. Dr. Hartsaw, who has been in partnership with Dr. C. L. Heald, plans to continue surgery and obstetrics at the hospital.

Dr. Arthur M. Harwood of Hedrick opened offices for the general practice of medicine in Sigourney on June 9.

Dr. Ballard Hayworth, who has been associated in the practice of medicine with Dr. T. R. Campbell of Sioux Rapids for the last eighteen months, recently accepted a residency in internal medicine at the State of Wisconsin General Hospital, Madison, Wis.

Dr. Werner M. Hollander of Davenport was speaker at the annual meeting of the City Elementary School Teachers Association held May 25 at the Lend-a-Hand Club, Davenport. He discussed the need for teaching mental hygiene in the schools.

Dr. Paul E. Huston and **Dr. Wilbur R. Miller** attended the annual meeting of the American Psychiatric Association held in Washington, D. C., May 24-27. Dr. Huston read a paper entitled "Learning Capacity in Schizophrenics."

Dr. Norman Knosp of Belle Plaine addressed the Rotary Club of that city at a recent meeting. He spoke on the effects of the atomic explosions in Japan.

Dr. Horace M. Korns of Dubuque was guest speaker at a meeting of the Houston Society of Internal Medicine on May 27. His subject was "Present Concepts of Congestive Heart Failure and the Role of Digitalis in Treatment." Also while in Houston, Dr. Korn made ward rounds at Herrman Hospital and Jefferson Davis Hospital in connection with teaching at the Baylor University College of Medicine.

Dr. Frank J. Kriebs of Elkport was recently made a knight in the Equestrian Order of the Holy Sepulcher in Jerusalem by Pope Pius XII according to word received by the Most Reverend Archbishop Henry P. Rohlfman of Dubuque. The honor was conferred in a ceremony at St. Michael's Church, Garber, May 27. Dr. Kriebs has practiced medicine and surgery in the Elkport-Garber community for sixty-three years.

Dr. Frank L. Lyman, resident physician at William Penn College, Oskaloosa, for the past year, has taken over the practice of the late Dr. D. J. Meentz of Fort Madison.

Dr. Edwin C. McGowan, formerly of Buffalo, S. D., has joined the staff of the Cherokee State Hospital, according to announcement by Dr. W. C. Brinegar, superintendent. Dr. McGowan will be in charge of the hospital infirmary and minor surgery.

Dr. Frederick Moore recently was appointed assistant superintendent of the Cherokee State Hospital. Through error the JOURNAL originally reported that he was appointed superintendent.

Dr. Loran F. Parker joined Drs. Robert J. and William A. Johnson of Iowa Falls in the practice of medicine on June 1. He has been a resident in internal medicine at Broadlawns General Hospital, Des Moines, the last three years.

Dr. R. W. Robb, member of the staff of the Independence State Hospital, spoke at the June meeting of the West Union Citizens' Club. His subject was "Mental Hygiene."

Dr. John R. Singer of Newton, recently released from the Army Air Force Medical Corps, has been appointed assistant plant physician for the Maytag Company of that city. He began his duties June 1. He is serving as assistant to Dr. Raymond F. Frech, plant physician, with whom he is also associated in private practice.

Dr. Channing Smith of Granger, medical advisor on the State Social Welfare Board, spoke at a meeting of the Lions Club, Woodward, May 10. He discussed the need for aid to handicapped children and adults and the problem of old age assistance.

Dr. George L. Wadsworth, superintendent of the Woodward State Hospital, was guest speaker at the Woman's Club guest day meeting and tea held May 19 in Woodward. His subject was "Progressive Program for Treatment and Training of the Mentally Handicapped in Institutions."

Dr. F. J. Wagner of Chicago has joined the staff of the Cherokee State Hospital as neuropathologist. He will be in charge of the pathologic laboratory.

MARRIAGE ANNOUNCEMENT

Miller-Koester

The marriage of Miss Corene Miller, daughter of Mr. and Mrs. B. G. Miller of Armstrong, and Dr. John F. Koester of Des Moines was solemnized May 15, 1948, at St. Paul's Episcopal Church, Des Moines. The bride is a graduate of the Iowa Methodist Hospital Nursing School and the groom of the State University of Iowa College of Medicine. Dr. Koester is on the staff at Veterans Hospital, Des Moines.

DEATH NOTICES

Foltz, Eloise M. Grosenbaugh, of Perry, aged 82, died May 13, 1948, of heart attack at her home. A graduate of the Bennett College of Eclectic Medicine and Surgery, Chicago, with the class of 1894, Dr. Foltz retired two years ago after more than fifty years in the practice of medicine in Perry. She was a member of the Dallas-Guthrie and Iowa State Medical Societies.

Gessner, Frederick William, of Dysart, aged 68, died June 7 in a Waterloo hospital of a heart ailment.

Dr. Gessner was graduated from Northwestern University Medical School, Chicago, in 1910, and had practiced in Dysart since then. He was a member of the Tama County and Iowa State Medical Societies.

Grimm, Peter George, of Spirit Lake, aged 76, died May 14 at the home of one of his children in Blair, Neb. He was graduated from Rush Medical College in 1893 and had practiced in Spirit Lake since 1918. While practicing he was a member of the Dickinson County and Iowa State Medical Societies.

Horton, Vincent Joshua, of Calmar, aged 51, died May 31 in Rochester following an operation. A graduate of the State University of Iowa College of Medicine, Iowa City, with the class of 1923, Dr. Horton had practiced in Calmar since 1925. He was a life member of the Winneshiek County and Iowa State Medical Societies.

Lynch, Robert James, of Des Moines, aged 67, died May 28 at his home following an extended illness. Dr. Lynch was graduated from Drake University College of Medicine, Des Moines, in 1906 and has practiced in Des Moines since that time. He was a member of the Polk County and Iowa State Medical Societies.

Scott, Walter Edgar, of Adel, aged 83, died at Oak Knolls Nursing Home, Des Moines, May 22. He was graduated from the Drake University College of Medicine, Des Moines, in 1891 and practiced in Adel continuously until his health failed. He was a life member of the Dallas-Guthrie and Iowa State Medical Societies.

Stewart, Robert Armstrong, of Independence, aged 69, died May 24 at his home following a heart attack. Dr. Stewart was graduated from Jefferson Medical College of Philadelphia in 1903. He was superintendent of the Iowa State Hospital for the Insane at Independence, in which capacity he had served since 1920. He was a member of the Buchanan County and Iowa State Medical Societies.

Thomas, Louis Albert, of Red Oak, aged 86, died May 26 at Murphy Memorial Hospital following a long illness. He came to this country from England in 1882, studied medicine in Chicago, practiced a few years in Anthon, Iowa, then moved to Red Oak where he practiced from 1897 until his retirement in 1936. He was a life member of the Montgomery County and Iowa State Medical Societies.

Wallahan, Jay Herbert, of Corning, aged 82, died June 4 following a long illness. Dr. Wallahan was graduated from the St. Louis College of Physicians and Surgeons in 1897. Before locating in Corning in 1906, he practiced in Ashley, Mo., and Wapello and Nodaway, Iowa. He was a life member of the Iowa State and Adams County Medical Societies.

Zinn, Edgar Nelson, of Fort Dodge, aged 61, died May 29 at St. Joseph's Mercy Hospital in that city. A graduate of the Chicago College of Medicine and Surgery with the class of 1909, Dr. Zinn began his career in Thompson, Iowa, later moving to Goldfield where he established a small private hospital. He moved to Fort Dodge in 1923. Dr. Zinn was a member of the Webster County and Iowa State Medical Societies.

ARMY SYPHILIS RECORDS AVAILABLE

The Veterans Administration has in its custody the majority of syphilis records of those army personnel who were treated for this disease while in active service, and in many instances can procure informative data from the syphilis records of other than army personnel. It is thought that many physicians treating veterans for syphilis as private patients would find a resume of the syphilis record useful since the details of treatment, results of spinal fluid examinations, and blood serologies are incorporated in the records.

Resumes of these records are available to physicians who are treating such veterans provided authorization for the release of the data is given by the veteran. Requests for the resumes accompanied by an authorization for the release of the data, dated and signed by the veteran, should be addressed to the Dermatology and Syphilology Section, Veterans Administration, Munitions Building, Washington 25, D. C. It is most important that the veteran's service serial number and other identifying information, such as the date of enlistment, the date of discharge, rank, and organization be included.

Ordinarily, the resumes can be furnished in approximately two weeks from the date of the receipt of the request and signed authorization.

CHICAGO POSTGRADUATE COURSES

The Chicago Medical Society is offering physicians of the country two postgraduate courses in September. A course in hematology and neurology will be given Sept. 13 through Sept. 18, 1948, and another in cardiovascular and respiratory diseases will be given Sept. 20 through Sept. 25, 1948.

The sessions will be held in Thorne Hall on Northwestern University Medical School campus.

An outstanding group of teachers from all sections of the United States will make up the faculty.

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Wednesday at 2:45 p.m.

WSUI—Thursday at 11:45 a.m.

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| July 7-8 | Summer Ailments—Heat Exhaustion and Sunstroke
L. C. Hickerson, M.D., Brooklyn |
| July 14-15 | Heart Disease—Hypertension
Harry B. Weinberg, M.D., Davenport |
| July 21-22 | Heart Disease—Coronary
H. G. Marinos, M.D., Mason City |
| July 28-29 | Heart Disease—Valvular
Robert N. Larimer, M.D., Sioux City |

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No. 8

THE ANATOMY AND PHYSIOLOGY OF THE LESSER CIRCULATION AS A BASIS FOR THE UNDERSTANDING OF ITS CLINICAL DISEASES

W. Walter Wasson, M.D., Denver, Colo.

The lesser circulation is one of the last of the major systems to yield to exploration and evaluation by means of the roentgen examination. It is unique in that it is completely enclosed within the thorax and therefore, is very difficult to explore by direct observation. There has been considerable controversy as to who is entitled to the credit for the first description of the lesser circulation. Some historians contend that Servetus, Realdus Columbus or Ibn Nafis each was the discoverer of the lesser circulation. However that may be, very little was contributed to our knowledge of the subject until the latter part of the nineteenth century. Until the last few years the investigation of the lesser circulation has been done by physiologists and by animal experimentation. These investigations were very ingenious and were carried on by many investigators in the various fields of anatomy and experimental physiology. It is most interesting to find that the present day direct investigation of the lesser circulation has proved the accuracy of the physiologist.

The important known points concerning the anatomy of the lungs are as follows:

a. There are two systems of capillaries—the capillaries from the pulmonary artery which are located in the walls of the air sacs, and which have to do with respiration, and the capillaries of the bronchial artery which come indirectly from the aorta and which are nutrient vessels.

b. The pulmonary capillary walls consist of a single layer of endothelium in the walls of the air sacs (Maximow),¹ and "are found naked to the air spaces" or the air columns. Some anatomists (Miller)² insist that there is a single layer of cells lining the air sacs which others call cell

platelets. However, it is important to remember that at most there are not more than two layers of cells between the capillary blood stream and the air columns within the air sacs.

c. It is estimated that the air sac surface of the lungs is 140 square meters (Hufner)³ or something more than 1,000 square feet. The same estimate is given for the capillaries as they are practically side by side in the air sac walls.

d. On the distal or pleural side of the capillaries opposing the air column there is a substantial framework of collagenous, reticular, and elastic fibers in a supporting membrane. These fibers extend down to the air sacs from the bronchi along the bronchioles, and also connect with the pleura. It is important to note the difference in the support for the delicate capillaries between the pleura and the elastic fibers on the one hand and the air column on the other. Miller² states that the elastic fibers may have something to do with the action of the lungs other than merely giving them elasticity.

e. No nerves, no muscle tissues, and no lymphatics have been demonstrated in the air sac walls.

f. The air sacs and their capillaries are therefore placed between the pleura, a comparatively strong elastic membrane, and the body of the lungs composed of bronchi, arteries and veins. The body of the lungs is moderately elastic and may stretch on inspiration, but it is also quite compressible when devoid of air and blood, especially in the infant and young child.

The important known facts concerning the physiology and the dynamics of the air sacs are as follows:

a. There is a very close association between the functions of respiration and the pulmonary circulation. Not only does the concentration of the gases affect the exchange of the gases between the blood stream and the air within the air sacs but also the rapidity of the heart action.

b. The blood pressure in the pulmonary artery of the fetus is equal to or slightly greater than

the blood pressure in the aorta. The blood is supposed to flow through the ductus arteriosus into the aorta from the pulmonary artery, but as determined by animal experimentation (Pohlman)⁴ immediately upon the first inspiration the blood pressure within the right ventricle drops to one-third or one-fourth that in the left ventricle. This phenomenon has not been satisfactorily explained. It is in accord with my own studies of the aeration of the lungs after birth.⁵ This aeration began with the first inspiration but required a period of from a few hours to two weeks to be completed. Neither has a satisfactory explanation been given for the closure of the ductus arteriosus in the human being. In certain animals its closure is due to the adherence of a membrane about the opening.

c. After the initial drop in the blood pressure within the pulmonary artery following the first inspiration, the relation of one to four or five⁶ between the pressure within the pulmonary artery and the aorta is maintained throughout life except in certain disease conditions.⁷

d. It is stated by Mallory⁸ that the thickness of the left ventricular wall is 0.3 cm. at birth and that the right ventricular wall is 0.3-0.5 cm., and in the adult the left wall is 1.5-2 cm. thick and the right one, 0.5-0.7 cm. Boyd⁹ records the adult measurements as: left, 10-15 mm., right, 5 mm. Abt's *Pediatrics*¹⁰ is more complete in its information, as it is stated there that at birth the left ventricular wall measures 4-4.5 mm. and the right wall, 3-4 mm.; at one year, the left is twice the thickness of the right, and at puberty it is three times as thick. According to these figures there is then very little increase in the thickness of the right ventricular wall after birth.

e. The blood pressure within the pulmonary capillaries is estimated to be 7 to 9 mm. of mercury, and that of the pulmonary veins at the heart as 11 to 19 mm. of mercury.¹¹

f. The intrapulmonary air pressure is stated to be one atmosphere or equal to that upon the chest wall.¹² There are, however, certain variations with decrease or increase of this pressure due to inspiration and expiration.

g. The average amount of air exchange on inspiration or expiration at quiet breathing is 500 cc., but this amount may be increased by 1,500 cc. more on either forced inspiration or forced expiration. About 1,500 cc. of air remains in the lungs after forced expiration.¹³

h. The elastic fibers over the air sacs and in the pleura hold back the atmospheric pressure within the air sacs to the extent of creating a negative intrapleural pressure of —5 mm. of mer-

cury, which may be increased to —10 mm. of mercury on inspiration.¹² This negative pressure within the pleural space must in turn create a slightly positive pressure within the air sacs and upon the walls of the capillaries. Many anatomists stress the possible importance of the elastic fibers of the bronchi, the air sacs, and the pleura in expiration. Some physiologists (Maximow)¹ state that in quiet respiration the chest wall descends passively, and that it is the elastic fibers which squeeze the lungs and force out the air.

Comment

In making a general survey of the anatomy of the air sacs, their physiology and the phenomena which take place within them, one cannot but be impressed with their delicate structure and the finely balanced mechanism which enables them to function. To unravel the various functions of the lungs and the phenomena concerned with respiration has required the life-long labors of many scientists. William Snow Miller spent thirty-two years before he finally obtained one particularly desired microscopical section of the lung. The thin-walled air sacs and capillaries would be more frequently damaged and ruptured if there were not 1,000 square feet of air sac surface to accommodate the inrush of air through the trachea. While the changes of pressure are considerable in the trachea, the 500 cc. of air necessary for quiet breathing is rapidly diffused throughout the extensive air sac spaces and creates no strain upon any particular portion of the lung. This absorption of the stress and strain is also true in forced inspiration and expiration. Twenty times the capacity needed for ordinary respiration is a considerable latitude for overloading.

Viewing the capacity of the lungs from known figures of air capacity gives some insight into the possibilities of the pulmonary circulation. The capillaries have an area of 140 square meters similar to that of the air sacs; 140 square meters or more than 1,000 square feet, and the blood supplying this large pool comes from one single artery with a diameter comparable to that of the trachea. It must be that the pulmonary capillaries can handle the supply of blood from the heart with the same ease that the air sacs handle the exchange of air in respiration.

Turning now to an analysis of the dynamics more directly concerning the air sacs and the pulmonary capillary flow, it must be remembered that the volume of blood will be greatest in the tube with the greatest diameter (law of continuity of fluids).¹⁴ In other words, the smaller the capillaries, the more hindrance there is to capil-

lary flow. If in atelectasis and pneumonia there is a compression of the capillaries, then there will be a definite interference with the capillary flow. This is the position taken particularly by Coryllos and Birnbaum.³ On the other hand, I have found very little in the literature concerning the importance of the air column in the bronchi and air sacs as an aid to the circulation within the pulmonary capillaries under normal conditions. One writer (Pohlman)⁴ speaks of the air backing up the capillaries. With the capillaries bare in the walls of the air sacs, the support given by the air column must be very necessary to offset the action of the elastic fibers of the air sacs and the pleura. On inspiration, the negative pressure within the pleural space increases from -5 mm. of mercury to -10 mm. of mercury,¹² thereby pulling outward by suction the visceral pleura, and in turn the elastic fibers of the air sac walls. This creates a lower pressure within the air sacs and air rushes in; but with this same inrush of air there must be an inflow of blood into the pulmonary capillaries from the pulmonary artery. When the chest wall descends and the negative pressure within the pleural space returns to -5 mm. of mercury the elastic fibers contract and squeeze out the air creating for the moment a positive air pressure in the air sacs and bronchi. This action must also certainly squeeze the capillaries between the elastic fiber framework on the one side and the air column on the other. The same effect would be obtained if the force came from the pressure of the chest wall. Then the result is a pressure exerted over 140 square meters of capillary surface and the flow of blood in the capillaries with 7 mm. of mercury pressure is into the veins with a pressure of 11 to 19 mm. of mercury rather than into the pulmonary artery with a pressure of from 18 to 20 mm. of mercury. A repetition of this action at each inspiration and expiration creates a pumping action upon a large volume of blood and must be quite effective. On inspiration, there is a negative intrathoracic pressure exerted upon the large veins of the lungs which also aids the capillary flow. On expiration, there is a squeezing of these thin-walled veins which may tend to force the blood either into the heart or back into the capillaries. Without the air columns in the bronchi and air sacs there is very little support to the capillary walls and only the compressible lung tissue against which the pleura and elastic fibers may contract. If this air pressure in the bronchi and air sacs is important to the pumping of the blood through the capillaries as an aid to the heart action, then many disease conditions such as passive congestion from cardiac failure would be aided by at-

tention to this function of inspiration and expiration. In other words, inspiration and expiration may not only pump the air in and out of the lungs but also pump the blood through the pulmonary capillaries. In atelectasis and pneumonia, there is not only the interference to the capillary flow by compression of the capillaries but also the loss of this auxiliary to the propelling force of the heart action.

After the first inspiration, the blood pressure in the pulmonary artery of the infant drops to one-third or one-fifth that of the aorta. This can be explained in part by the dilatation of the pulmonary capillaries when the air sacs expand and there is an inrush of a large volume of blood. With the disappearance of the state of atelectasis, the capillaries then have a larger diameter and permit a larger volume of blood to pass, thereby requiring a lower pressure within the pulmonary artery. However, it does not seem quite reasonable that this state of complete aeration of the lungs alone can explain the phenomenon of the lower pressure within the pulmonary artery and the circulation within the pulmonary capillaries. Heger and Spehl³ have stated that on inspiration the lungs contain one-twelfth of the volume of blood in the body and on expiration, one-eighteenth of the volume of blood in the body. Coryllos and Birnbaum³ quote E. K. Dunham's theory that more blood is brought to the capillaries upon inspiration. Torek³ is quoted by the same authors (Coryllos and Birnbaum) as follows: "In the normal thorax, the negative pressure on the outside of the lung constantly exists; nature established it so that a maximum amount of blood may be sent to the lungs for oxygenation, and with each respiration the suction on the outer surface is increased with a consequent increase in the amount of blood entering the lungs, whereas the expiratory effort drives it out again. Sauerbruch³ recognized the fact that there is increased blood flow in the lungs during inspiration, but he attributed the increased flow to being mostly due to increase in the diameter of the capillaries. Coryllos and Birnbaum³ concluded that "Circulation and ventilation of the lung are parallel functions; when ventilation is impaired circulation is decreased, and conversely . . .," and "In the compressed, atelectatic (apneumatic) and consolidated lung, the circulation is progressively impaired. This impairment is due to, and regulated by, the degree of collapse of the alveoli, and not to capillary thrombosis or capillary compression by alveolar exudate as heretofore believed." These statements substantiate the theory that the act of respiration changes the volume of blood

within the lungs. Further, the pumping action of the pleura and the elastic fibers of the air sacs in inspiration and expiration together with the changes in pressure of the air columns then aid the heart in maintaining this low pressure. As a result of this low pulmonary pressure the pulmonary artery does not rise in the mediastinum as does the aorta. The arch of the aorta in the infant passes directly posteriorly in the mediastinum, but in a few weeks it grows rapidly to assume a higher position while the pulmonary artery remains below and to the left. This change in position of the aorta and its relation to the pulmonary artery may create a tension upon the ductus arteriosus and effect the closure of the ductus arteriosus.

Of course, after such a discussion it would be very interesting to know what would happen if there were a closure of the ductus arteriosus or the foramen ovale before birth and before there was any aeration and expansion of the lungs. Fortunately, there are cases on record with an accurate and detailed report of the consequences of such early closure. The findings are in accord with what might be expected if all the blood from the right side of the heart was forced to go through the pulmonary artery while the lungs were in a state of atelectasis. Benner¹⁵ reported necropsies on a stillborn and an eleven hour old infant in which the hearts of both showed evidence of premature closure of the foramen ovale, and there was a widely patent ductus arteriosus in the stillborn fetus. The pathologic findings in both cases were: swelling of the extremities, edema of the skin, atelectasis of the lungs, and congestion of the liver which in the fetus was severe. The muscles of the right auricle were hypertrophied in both cases, and in the infant that of the right ventricle also. It is possible to theorize that if the thickness of the wall of the right ventricle bears a definite relation to the pressure within the pulmonary artery, and the thickness of this wall and that of the left ventricle together with the blood pressure within the aorta at birth are known, then an equation may be formulated as follows: the thickness of the right ventricular wall is to the thickness of the left ventricular wall as the pressure in the pulmonary artery is to the pressure in the aorta. Such an equation should offer some information as to the probable blood pressure within the pulmonary artery at the time of death, and at least the later weeks of life. This is in a measure substantiated by the work of Bruns³ who found hypertrophy of the right side of the heart following experimental pneumothorax maintained for

four months, and "there is no doubt that chronic lesions of the lungs accompanied by atelectatic alterations are followed by hypertrophy of the right side of the heart (Zuntz, Gerhard and Carlstrohm)."³

A recheck of the list of diseases of the chest and the lesser circulation reveals the fact that there may be a few diseases which are primary to the lesser circulation, but that most of the diseases of the lesser circulation are secondary to other diseases of the chest. In fact, all diseases of the chest may involve the lesser circulation more or less, and even diseases of the greater circulation quite distant from the chest may produce secondary involvement of the lesser circulation. In order to further differentiate and diagnose the diseases of the lesser circulation, it is necessary that some classification be attempted. It seems that there may be four great classes of diseases of the lesser circulation:

1. Disease of the heart, which may be either primary or secondary. It is quite evident that the disease of the heart will be distinctive, clinically or roentgenographically, either as a congenital anomaly or as an involvement in later life. Such disease of the heart may be either primary or secondary and will interfere with the propelling power of the blood through the lesser circulation, as in the congenital anomalies, valvular disease or congestive heart failure, et cetera.

2. There are a few diseases of the pulmonary arteries and veins which are primary, and which are quite characteristic as a class when viewed roentgenographically; primary sclerosis of the arteries, aneurysms, arterio-venous fistulae and rheumatism. There are also involvements which are secondary to disease elsewhere in the body and which are also characteristic as a class, such as emboli, metastatic tumors, allergic response, et cetera.

3. There is that group of diseases of the lungs which may involve the lesser circulation secondarily by either interfering with the passage of blood through the pulmonary vessels by pressure or constricting these vessels, as in pulmonary fibrosis, or by direct inflammatory involvement of these vessels, as in pulmonary tuberculosis. This large group is then characterized by those extensive diseases of the lungs producing pulmonary fibrosis, ulceration, et cetera, and result in increased pressure within the lesser circulation and dilatation of the right heart. This final stage has been termed *cor pulmonale*, by most writers.¹⁶

4. Finally, there is that group of diseases of the chest which may indirectly influence the lesser circulation by disturbing especially the mechanics

of the chest, such as deformities of the chest, obesity, kyphosis of the thoracic spine, the funnel chest, and other anomalies of the thoracic cage which affect the lesser circulation by displacing the viscera of the lungs. Similarly, obesity as described by Kerr,¹⁷ will interfere with the proper diaphragmatic action and, therefore, interfere with adequate ventilation of the lungs. Such interference with inspiration and expiration and the loss of this power of propelling the blood will throw increased strain upon the right heart, and many of these patients will have cardiac distress. The postoperative fixation of the diaphragms and the resulting hypoventilation of the lung bases, and again increased strain upon the right heart belong to this general class. Trauma of the chest wall with fixation of the chest will produce similar conditions of hypoventilation and increased strain upon the right heart.

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DIAGNOSIS AND SURGICAL TREATMENT OF PATENT DUCTUS ARTERIOSUS

Willis J. Potts, M.D., Chicago, Ill.

Surgery for congenital heart disease is relatively new. Until a few years ago congenital heart disease stopped with the diagnosis because nothing could be done about it. Then one by one congenital cardiac anomalies fell before the impact of surgery.

The subject of this discussion is that of persistent patent ductus arteriosus. It is interesting in retrospect to think that it has been only ten years since the first one of these patients was operated on successfully. It had been tried a number of times. The field was ripe, and suddenly Gross came along and did the first case successfully. Since then it has become a fairly common operation.

In the diagnosis of patent ductus arteriosus the most important factor is the murmur. However, a word of warning should be given. It is important in a newborn child, when you hear a characteristic murmur, not to be hasty because in only 56 per cent of patients, according to Christie, is the ductus closed at birth. In 90 per cent it is closed by two months, and at eight months 98 per cent of the ducti have closed spontaneously. Eventually about 98.8 per cent are permanently closed. The murmur one hears in a child in the first few months of life should not be taken too seriously and not too much fuss should be made about it. It may disappear spontaneously.

To me, the amazing thing is not that the ductus persists but that an endothelial lined tube such as the ductus should atrophy. Its function, of course, has ceased, yet why should it atrophy? Probably, as Dr. Watson pointed out, the difference in pressure between the lesser and the greater circulation is a factor.

The findings of this condition are interesting. I wish to emphasize, first of all, the outstanding symptom of patent ductus arteriosus—the murmur. The murmur has been called a “humming-top,” “machinery murmur,” and so forth. It is a persistent murmur. It begins in systole and persists through diastole if it is an uncomplicated ductus. It is a whirl, whirl, whirl. It doesn't stop anywhere in the phase of the cycle. If the murmur stops anywhere in the cycle or it is only systolic in nature, the chances are almost 100 per cent that this child does not have a typical patent

Doctors

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*From the Children's Memorial Hospital and from the Department of Experimental Surgery of Northwestern University Medical School, Chicago, Illinois.

ductus arteriosus. This finding is in contrast with the picture we will show this afternoon of pulmonary stenosis, in which a child with a persistent murmur going into diastole is practically always inoperable.

The murmur will be heard best where the ductus is at the left second interspace at the margin of the sternum. From this point of maximum intensity it radiates over the entire chest and can be heard in the back. With a hand on the chest, you will not infrequently note a thrill which one child described recently as "it feels like bees in a bag"—a fairly good description.

You will note in the roentgenogram an enlargement in the region of the pulmonary conus on the left side of the base of the heart. The clouding of the lung fields is due to excessive blood flowing through this child's lesser circulation. You will see increased vascularity of the lung fields on fluoroscopic examination if your eyes are well accommodated.

The blood pressure in these children is characteristic. The systolic pressure will be 100 to 120 mm. of mercury and the diastolic pressure usually around 40 or 50; in other words, there is a high pulse pressure. The capillary pulse is easily seen by pressing a glass slide on the child's lower lip and watching in good light. With each beat you will see alternate blanching and reddening as the capillaries expand underneath the glass slide. The electrocardiogram is practically always normal.

General findings in children with patent ducti are rather characteristic. These patients when young are active as crickets. I am sure, although I cannot support this contention, that this is due to the excess oxygen these children absorb. During the first few years of life the child never seems to tire. Later, as the heart begins to show signs of strain the child fatigues easily and complains of palpitation of the heart.

These children are usually considerably under weight. Their arms and legs especially are underdeveloped and their growth lags behind that of a normal child. This lack of physical development is undoubtedly due to deflection of much blood from the general to the lesser circulation.

The roentgenograms of a 12 year old girl showed a heart tremendously enlarged and a huge bulge at the left base. At operation this bulge proved to be an enormously enlarged pulmonary artery. She weighed 52 pounds. At operation she had the largest ductus I have ever seen or heard of—18 mm. in diameter, outside measurement made with a caliper. During three months following operative closure of the ductus she gained 22 pounds.

The diagnosis in 32 consecutive cases of patent ductus arteriosus herewith reported was accurately made by Dr. Stanley Gibson and confirmed in all at operation.

The indications for operation are now much broader than they used to be. Cardiologists, in general, agree that a patent ductus arteriosus, uncomplicated, accurately diagnosed, is an indication for surgery. Because the mortality has been reduced to a proper level, it is felt that these children should be operated on some time between the ages of 2 and 10. The danger of surgical mortality is far less than the danger of later cardiac failure.

Now let us consider the question of what type of operation should be done. Should the ductus be ligated, or should it be divided and sutured? There is some difference of opinion on that. Gross, as you know, advises division and suture of all ducti. Blalock feels that the dangers of uncontrollable hemorrhage are such that ligation is preferable. Jones in Los Angeles ligated all ducti for years but because of complications due to foreign material used in ligation now employs division and suture. Wagensteen in Minnesota has changed from ligation to division of all ducti.

At the Children's Memorial Hospital we have slowly changed our approach and method of attack. In the early cases we used the anterior approach making a curved submammary incision below the breast, cutting the second and third ribs at their sternal margin. Now we employ the postero-lateral approach through the left fourth interspace. This latter incision provides better exposure and is more easily and satisfactorily closed.

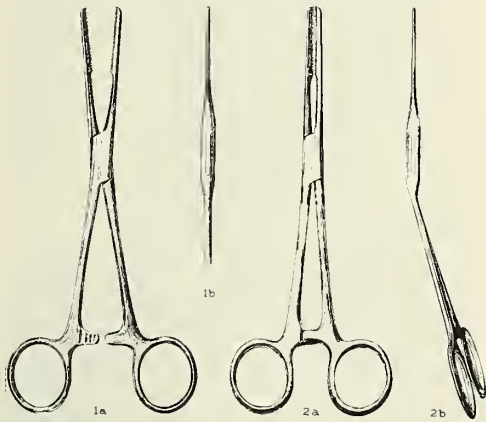
Through an incision in the mediastinal pleura posterior to and parallel with the phrenic nerve the region of the ductus is exposed. Three important steps are necessary for adequate and safe exposure of the ductus: (1) the lappet of pericardium must be completely dissected from the ductus; (2) the recurrent laryngeal nerve must be identified and carefully retracted laterally; and (3) dissection of the ductus from the surrounding structures must be made through the loose layer of adventitia about the vessel. If this line of cleavage is found and followed, the danger of injuring the ductus, especially its posterior wall, will be minimized.

In the first 22 patients the ductus was doubly ligated, transfixed between these ligatures and further secured by a snug ligature of narrow umbilical tape. There was no mortality and no post-operative complication of note except one case of severe tracheobronchitis as a result of intra-tracheal anesthesia. To date we know of no

ductus that has recanalized. However, burying a large amount of foreign material in the chest does not represent the best in surgical practice. Various authors have reported recanalization following ligation and local abscesses about the foreign material. If the danger of uncontrollable hemorrhage from a slipping clamp could be eliminated, I believe most surgeons would prefer division and suture to ligation.

Our attention therefore was focused on the development of clamps which would be safe, effective and nontraumatic. Our experience to date indicates that such clamps are at hand. This is the first time they are being presented as a preliminary report to the medical profession for consideration.

The principle of these clamps is embodied in the use of very fine teeth in the opposing jaws



Figures 1 and 2

(figs. 1 and 2).^{*} The clamps are seven inches long. The serrated portions of the jaws, 1 mm. wide at the back, are hollow ground so that at the base of the teeth they are about .5 mm. wide. There are 40 points to the inch. Each point is about 1 mm. long. These fine teeth catch in the adventitia and will not slip. If the clamp could be closed beyond a certain point the teeth would interdigitate, but the hub of the clamp is so constructed that the points can be firmly opposed but cannot interdigitate and crush the vessel. The handle of the clamp for the aortic side of the ductus is bent at a 30 degree angle for the convenience of better exposure; the clamp for the pulmonary side is straight.

The technic of operation is briefly as follows: Under intratracheal anaesthesia with the child in the lateral position, the chest is opened and the ductus exposed as described above. After the ductus has been well freed from surrounding struc-

tures, especially posteriorly, the angled ductus clamp is applied to the aortic side of the ductus. If the ductus is short a curved hemostat is placed beneath it and slight traction is made while the clamp is applied well on the aortic end. The second ductus clamp is placed well on the pulmonary end. Practically the entire length of the doubly occluded ductus lies between the clamps which are so narrow as to occupy very little space.

With a long straight scissors a small cut is made in the ductus. If no bleeding occurs—none has—the ductus is completely divided. The aortic stump is then sutured distal to the clamp with fine silk on a curved atraumatic needle. Starting at the lower end a row of to and fro mattress stitches, about 1 mm. apart, are continued to the upper edge of the ductus. With this same suture a row of continuous over and over stitches are continued to the starting point where the ends of the suture are tied. The clamp is partially released. If there is any bleeding the clamp is again closed and an appropriate stitch is placed. The pulmonary stump of the ductus is similarly sutured.

The mediastinal pleura is closed, the chest drained with a small de Pezzer catheter and the chest closed. The drainage catheter is connected with a water seal bottle after the patient is returned to bed.

On the basis of much experimental work on dogs at Northwestern University Medical School and on the basis of 10 consecutive patients whose ducti have been successfully divided and sutured without operative hemorrhage or postoperative mortality or morbidity according to the technic described above, we believe it is opportune to present these ductus clamps as safe, effective and nontraumatic.

Conclusions

1. Patent ductus arteriosus can be accurately diagnosed in a high percentage of cases. A continuous "humming top" murmur is the most accurate diagnostic guide.
2. Division and suture of the patent ductus arteriosus is the surgical procedure of choice.
3. Ductus clamps embodying a new principle are described.

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THE APPLICATION OF OXIMETRY AND CARDIAC CATHETERIZATION TO THE DIAGNOSIS OF CONGENITAL HEART DISEASE

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The diagnosis of a congenital cardiac malformation is usually quite satisfactorily made by employing only traditional methods. However, errors are not infrequent if one studies the clinical diagnoses in any postmortem series of cases, which fact is even more noteworthy if one remembers the likelihood of the clinician being correct by his knowledge of the statistical incidence of the various lesions. The greatest refinement in standard methods has taken place in the field of cardio-roentgenoscopy whereby in skilled hands exact diagnoses have been made even when the patient was a very young infant. All the clinical methods may reveal signs that contribute to the proper diagnosis and in special instances one method alone may contribute largely to the decision, such as in auscultation the presence of a typical ductus arteriosus murmur, in the electrocardiogram the peculiarly characteristic left axis deviation occurring in cyanotic congenital heart disease related to atresia of the tricuspid valve, or in roentgenoscopy the tremendous pulsations of the hilar vessels characteristic of a large atrial septal defect.

In this paper the value of oximetry, the measurement of the oxygen saturation of hemoglobin by photo-electric methods, and cardiac catheterization in the physiologic and anatomic diagnosis of congenital cardiac defects will be discussed. Recent improvements of the photo-electric oximeter by Wood and his associates¹ have obviated the necessity of arterial punctures and extended many types of investigations to infants and young children.

As ordinarily used, the oximeter measures the oxygen saturation of the arterial blood in the pinna of the ear and one may obtain a continuous recording of the oxygen saturations under conditions both of rest and of activity. Classically, congenital cardiac disease is separated into cyanotic and noncyanotic groups, but such a division is crude at best; more exactly, the division should be between the cases with normal and those with subnormal arterial saturations. The recognition of cyanosis is frequently difficult,² and significant degrees of arterial unsaturation may be present without detectable cyanosis.^{3, 4}

When venous-arterial shunts are present in association with pulmonary stenosis, as in the

tetralogy of Fallot, the continuous observation of the arterial saturation by means of the oximeter has given the best indication of the severity of the stenosis and inadequacy of collateral pulmonary flow.⁵ In some cases, in which necropsy later revealed a practically atretic pulmonary valve, the arterial saturations, checked by Van Slyke analyses of arterial samples, had dropped to less than

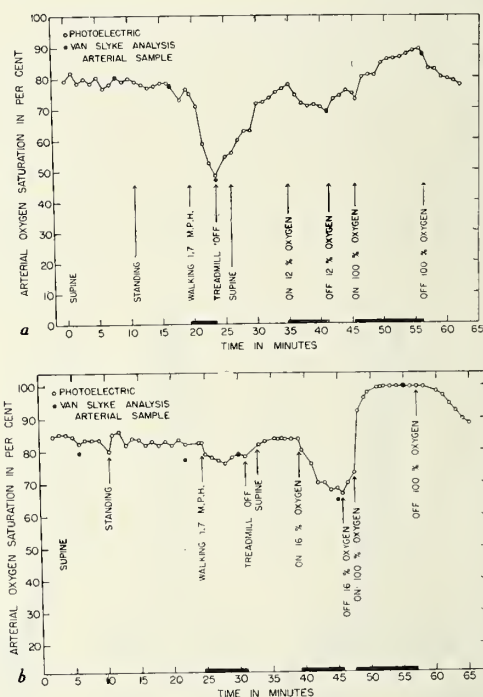


Fig. 1. Arterial oxygen saturations measured by the modified Millikan oximeter in 2 patients, showing the effect of exercise and of breathing various mixtures of oxygen. a. A patient, on whom a diagnosis of tricuspid atresia and patent ductus arteriosus had been made, shows a characteristic decrease of arterial saturation with exercise and a moderate increase of arterial saturation with 100 per cent oxygen. b. A patient, aged 8 years, had had recurrent asthma since 1 year of age. A diagnosis of cor pulmonale was made, though an associated congenital cardiac malformation had been suspected because of the appearance of cyanosis, polycythemia and clubbing at such an early age. The very slight decrease of arterial saturation with exercise and the normal arterial saturation with administration of 100 per cent oxygen demonstrate the pulmonary causation of the cyanosis. The marked increase of oxygen desaturation of the arterial blood with the breathing of 16 per cent oxygen as compared with the slight desaturation in the first case with the breathing of 12 per cent oxygen is also illustrated.

20 per cent. The extent of the drop of arterial saturation with exercise seems to be the best single objective test for the need of corrective surgical procedures and also correlates fairly well with the history of the child's exercise tolerance. It has been noted that those patients who do not maintain an arterial saturation of at least 70 per cent at complete rest are in semicritical states and are usually in a poor state of nutritional development. After operation wherein the blood supply to the lungs is increased, the drop of arterial saturation with exercise may be markedly decreased and this change seems to be as important

in assaying the success of the operation as the gain in the resting arterial saturation.

Oximetry and the exercise test enable one to make, not an anatomic diagnosis, but rather an appraisal or diagnosis of the physiologic fault. In some unusual instances, however, these procedures may be useful in excluding certain pathologic lesions, as is shown in figure 1, where the differences in responses of the arterial saturation

saturation of hemoglobin within the heart or great vessels.

It follows that these features must be subject to rapid appraisal if the catheterization procedure is to reveal its full value. Even with all these controlling features, it is sometimes impossible to decide exactly the anatomic location of the catheter in difficult cases, a fact which was particularly evident in one case of levocardia with situs

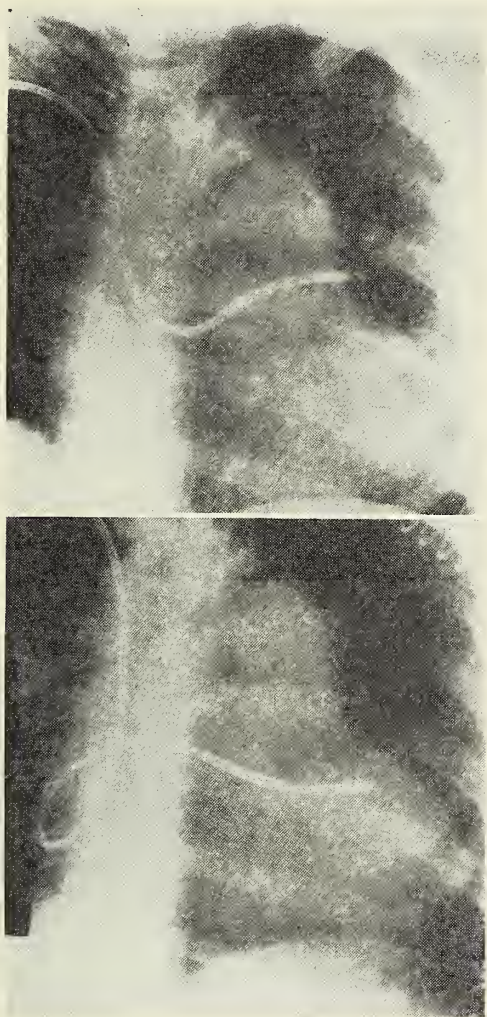


Fig. 2A. Diagnosis of atrial septal defect and left persistent vena cava. Right upper—catheter in a left pulmonary vein; right lower—catheter in left ventricle.

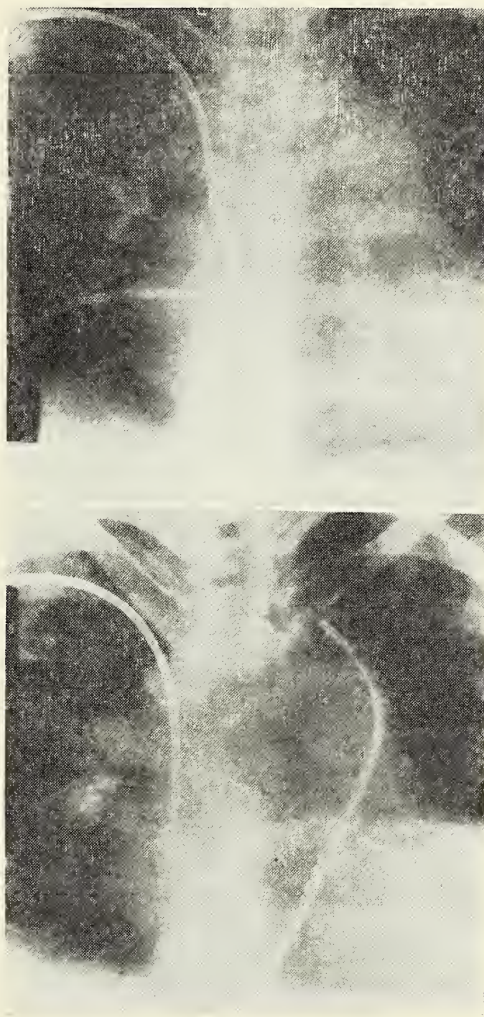


Fig. 2B. Left upper—catheter in a right pulmonary vein; left lower—catheter in left persistent vena cava.

between a case of cyanotic congenital heart disease and a case of cor pulmonale are illustrated.

When a catheter is introduced into the heart which has a congenital defect, the abnormal findings that have been observed may be placed in three interrelated groups: (1) abnormalities recognized roentgenoscopically in locations of the catheter tip; (2) abnormalities of the intracardiac pressures; (3) abnormal variations of the oxygen

inversus in which catheterization was performed in our laboratory. At the present time no method of recording rapid changes of intracardiac pressure through a catheter is completely beyond criticism. Fortunately, however, measurements sufficient for clinical work may be readily accomplished and strain gauge manometers as described by Lambert and Wood⁶ have been adapted to the catheterization procedure so that the pressure at

the catheter tip may be continuously observed. In addition the oximeter principle has been incorporated by Wood and co-workers¹ into a photoelectric cuvette, which has made possible rapid determinations of the blood oxygen saturation of any sample of blood drawn from the catheter. The importance of knowing both the pressure and blood oxygen saturation could be emphasized by citing several cases in which, without such knowledge, it would have been impossible to know which ventricle the catheter had entered.

1. Abnormalities readily demonstrable roentgenoscopically are illustrated by catheterization of pulmonary veins in the presence of an atrial septal defect or by demonstration of the presence of a left superior vena cava (fig. 2). In one case of this type, it was possible by the finding of characteristic blood saturations by oximeter readings of samples from the catheter to demonstrate to our satisfaction that the persistent left superior vena cava entered the coronary sinus near the left border of the heart.⁷

2. The abnormality which may best illustrate an absolute diagnostic value of intracardiac pressure determinations is a case of pulmonary stenosis with intact septa in which the arterial blood was normally saturated but the right ventricular systolic pressure was very high while that in the pulmonary artery was much lower. The actual values of the pressures recorded were 155 mm. of mercury systolic and 13 diastolic in the right ventricle, and 20 systolic, 3 diastolic in the pulmonary artery. Concerning intracardiac pressures, it is of great interest that in patients with rather tremendous pulmonary flows, such as occur in large atrial septal defects, the right ventricular systolic pressures have been found to be only slightly or moderately elevated, the values lying between 22 and 50 mm. of mercury in our cases. The oldest patient in our series of catheterized atrial septal defects was 59 years of age, a fact which indicated that, even over many years, high pulmonary flows with this lesion are not necessarily associated with increasing pulmonary hypertension. In addition, this 59 year old woman was the only patient with proved atrial septal defect, and with a patent ductus arteriosus ruled out, who showed no electrocardiographic evidence of right ventricular hypertrophy. The marked capacity of the normal pulmonary vascular bed to allow great increases of blood flow without increases of pulmonary arterial pressure has been emphasized by Cournand.⁸

3. The diagnostic value of abnormal variations of the blood oxygen content are much more immediately apparent in left-to-right shunts than in

the cyanotic right-to-left shunts. Thus arterialization of blood in the right atrium or arterialization of blood above the pulmonary valve is a practically pathognomonic finding for the diagnoses of atrial septal defect and patent ductus arteriosus respectively.

In 3 cases of atrial septal defect in which the patients were adult, with decreased exercise tolerance but no evidence of heart failure, there has been evidence of interatrial mixing even though the predominant shunt has been from left to right. Exact measurements of the intracardiac shunts in atrial septal defects are often difficult to secure because of an inability to obtain a true value for the oxygen content of mixed venous blood, this

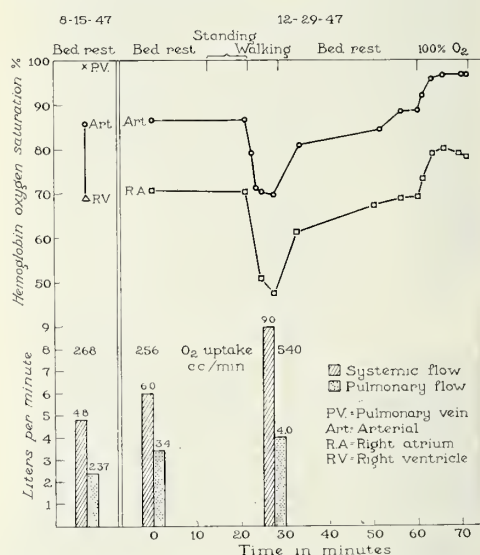


Fig. 3. An illustration of the value of oximetry combined with cardiac catheterization in studying the circulatory adjustments of a patient who had cyanotic congenital heart disease. The patient is the same as in figure 4. The patient was able to maintain adequate arterial saturations on exercising with only a slight increase of the A-V oxygen difference and a slight increase of the systemic-pulmonary flow ratio. The calculation of the pulmonary flow is based on the assumption of no significant collateral flow, an assumption which may not be entirely warranted. The patient had good exercise tolerance and was not believed to have severe pulmonary stenosis.

The change of cardiac output between August and December indicated by the respective catheterization results can be readily explained by the decrease of hemoglobin content of the blood, from 25 to 22 gm. per 100 cc., resulting from repeated venesection. It may be noted that pulmonary vein blood obtained at the time of the first catheterization was normally fully (98 per cent) saturated. The blood saturations during the procedure were determined by both oximetric and chemical analyses, samples for the latter determinations being withdrawn from an indwelling arterial needle after the method of Wood and from the catheter the tip of which was in the middle of the right auricle. The patient's body surface was 1.63 square meters.

having to be calculated from superior and inferior vena cava and possibly hepatic vein blood oxygen saturations. In one case of patent ductus arteriosus associated with pulmonary hypertension in which catheterization was performed, there was suggestive evidence of slight pulmonary valve insufficiency from the right ventricular blood oxygen saturations.

In cases of cyanotic heart disease, cardiac catheterization may give data on which the smallness of the pulmonary flow as compared to the systemic flow may be calculated by the usual Fick principle. The occasional demonstration of adequate flows in cases in which the diagnosis of Eisenmenger's complex has been made, has been valuable. However, when there is severe pulmonary stenosis, exact calculation of blood flow through the lung is fraught with difficulty because of collateral flow through the bronchial arteries. The method described by Bing and associates⁹ for measurement of collateral flow needs further critical re-evaluation and so far has not been utilized in our laboratory because of the technical and theoretical difficulties involved and because the oximetric exercise test has seemed an easier and an apparently reliable test of the degree of inadequacy of the pulmonary flow. When there is reasonable doubt as to the diagnosis from clinical evidence, considerable help may be obtained from the parts of the heart or vessels that may be catheterized and the pressures obtained within such cavities.

The combination of cardiac catheterization with continuous recordings of the arterial blood saturation and the mixed venous blood saturation may reveal the nature of the circulatory adjustments to added stress. In figure 3 are shown such values in a patient having an atrial septal defect and moderate obstruction to pulmonary blood flow. The exercise tolerance in this patient was excellent, although with exercise there was the characteristic drop of arterial oxygen saturation which was associated with a drop of the mixed venous blood saturation. It may be noted that these values of hemoglobin oxygen saturation show evidence of reaching a plateau, in association with an increased cardiac output. This patient, the subject of repeated studies to be reported later in greater detail, showed only slight variation in the right-to-left shunt, about 45 per cent of the blood returning to the heart being shunted to the aorta and being recirculated. When the circulatory adjustments are quite adequate, as in this case, oxygen saturations of about the 70 per cent level are often selectively maintained during exercise. The results of the exercise test in this patient followed the same pattern in repeated tests (fig. 4).

It may be emphasized that these laboratory methods are often not necessary for clinical diagnoses or for recommendations for treatment. The clinical features of the various lesions have been outlined by Taussig,¹⁰ Dry and co-workers,¹¹ and Gibson.¹² However, when the clinical picture of

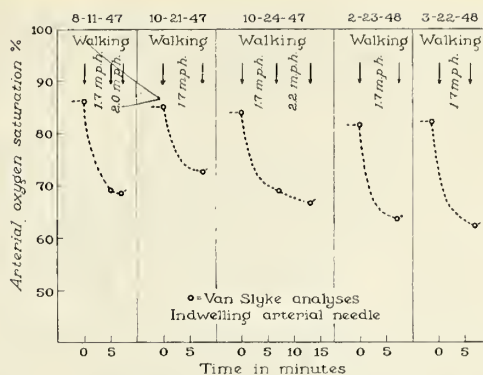


Fig. 4. An illustration of the reproducibility of the exercise test in an adult patient who had cyanotic congenital heart disease associated with a right-to-left atrial shunt. It is believed on theoretical grounds that the leveling off of the arterial saturation may be related to an ontogenetic anoxic drive for increased cardiac output, such a stimulus seeming to occur at arterial oxygen tensions of about 75 per cent oxygen saturation. The dotted lines connecting the Van Slyke determinations do not represent actual observed oxygen saturation values in this diagram. Whether the slightly greater decrease of oxygen saturation with exercise at the later dates might be related to a reduction of the circulating hemoglobin from approximately 25 to 20 gm. per 100 cc. of blood through repeated venesections is entirely speculative.

any lesion is atypical, cardiac catheterization is most useful in determining the nature of the lesion. The diagnostic features of the catheterization data as obtained from different types of cardiac malformations have also been outlined by Dexter and associates,¹³ Burwell and Dexter,¹⁴ and Bing and associates.¹⁵ In one's enthusiasm and increasing experience with a special investigative procedure, one must not forget another special procedure, angiocardiology, which in particular cases may also be of unique diagnostic value, and in infants holds much promise of increased specific usefulness.

Conclusions

The continuous recording of the arterial blood oxygen saturation by photo-electric methods, particularly under conditions of exercise, has been of great value in determining the severity of the physiologic fault in cases of cyanotic congenital heart disease.

Cardiac catheterization has given a very exact method of distinguishing the acyanotic congenital cardiac defects from one another and occasionally is particularly valuable in establishing the diagnosis when the lesion in question is associated with atypical and confusing features. In the field of venous-arterial (cyanotic) shunts the diagnosis often may be clarified, but in this group of cases the catheterization data may sometimes be much more difficult of interpretation.

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DIGITALIS

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When Wenckebach made his oft-quoted statement about digitalis, "A long life is too short to learn enough about this wonderful drug," he spoke more truly than he knew. Since early cardiologists watched the effect of a few simple galenic preparations of the foxglove, there has evolved a bewildering array of extracts and "active principles."

This search for purified extracts and active principles is by no means peculiar to digitalis. Indeed, as DeGraff¹ has pointed out, powdered digitalis leaf is one of the few remaining crude drugs used in the treatment of disease. There are many objections to its use, the chief of which are its variable absorption from the stomach and difficulties in standardizing its effect on man. It is not difficult for the chemist to eliminate from the leaf the irritating saponins, inert material, and so on. If there remained then a single active principle, the clinician's problem would be comparatively simple. Instead, the physician at the bedside must sort over in his mind powdered whole leaf in capsule and pill, digitoxin and digoxin, ouabain and K-strophanthin, lanatoside C and urginin, jumbled together with a variety of trade-name pills and ampules.

What does digitalis do? The pharmacologists² tell us that its most constant action on the heart

is to shorten the interval between depolarization and repolarization of the muscle membrane. The physiologists³ say that it produces an increased force of contraction of diseased heart muscle, increasing the amount of work accomplished for a given amount of oxygen consumption. The clinician knows that when he gives the drug to a patient in congestive failure the venous pressure falls,¹⁶ the heart size diminishes, the heart rate decreases, and the edema disappears.

The practitioner has learned that administration of digitalis is indicated in two groups of cases: congestive heart failure and certain arrhythmias. In congestive failure the drug, by increasing the strength of contraction, enables the heart to continue pumping forward all the blood delivered to it from the venous circulation. In the arrhythmias, again, it maintains effective pumping action by slowing the ventricular rate and thus allowing time for diastolic filling.

These are the only clinical indications of importance for the use of digitalis. If you ask, what about paroxysmal nocturnal dyspnea, what about cardiac enlargement with exertional dyspnea, what about protodiastolic gallop, the answer must be another question: what is congestive failure? It is the inability of the heart to deliver at each ventricular systole the amount of blood which it receives during the corresponding diastolic filling period. The excess blood backs up into the distensible venous system. If it is the left heart which first lags behind, the pulmonary venous bed is engorged, the vital capacity is diminished, and dyspnea occurs. Whether dyspnea first manifests itself on exertion or during sleep depends on extra-cardiac factors. Should the right heart fail first, the familiar picture of liver engorgement and dependent edema results. Hypertrophy of the heart is the result of stretching and overwork of its muscle fibers. Whatever its cause, protodiastolic gallop is an ominous warning of cardiac dilatation and impending collapse.

All of these symptom complexes, then, are expressions of congestive failure, early or late. They are all distress signals from a flagging myocardium, and they all call for the administration of digitalis if the heart load cannot be reduced to a point within its work capacity.

How early in such a sequence of events should digitalis be administered? Should the elderly patient with moderate cardiac enlargement but without obvious edema receive "tonic" doses of digitalis?⁴ Should the patient who has had one bout of frank congestive failure be maintained for the remainder of his life on digitalis,¹³ or should the drug be given only during recurrences of failure?

The answer must depend largely upon what the practitioner regards as congestive failure. In borderline cases the answer may be obtained only by trial to determine whether further cardiac enlargement and frank circulatory failure may be delayed.^{5, 10}

Among the arrhythmias, those which call for digitalis administration are the conditions in which the ventricles are beating so rapidly that they have no opportunity to fill and to pump an adequate amount of blood efficiently. The cardinal example, of course, is auricular fibrillation with a rapid ventricular rate. Auricular flutter which fails to yield to quinidine is likewise an indication for the exhibition of digitalis to depress atrio-ventricular conduction and slow the ventricles to an efficient rate. It is well known that the occasional case of auricular flutter will be converted to auricular fibrillation when digitalis is given, and that the mechanism may then return to a normal sinus rhythm when the drug is discontinued.

Occasionally the physician encounters a case of paroxysmal supra-ventricular tachycardia which does not respond to vagus stimulation, cholinergic drugs, or similar measures. In such a case, digitalis may restore the normal rhythm and stop the runaway heart short of exhaustion and collapse. Frequent premature beats are commonly accepted evidence of digitalis overdosage, but they may paradoxically be due to myocardial failure and in such cases may disappear when digitalis is given.

As the physician has learned from the bedside and from the laboratory the uses of digitalis, he has also learned its limitations. He has learned that it is useless, or worse, in shock, in neuro-circulatory asthenia, and in the peripheral circulatory collapse of pneumonia and other toxemias. He has found it of no value in the treatment of angina pectoris or myocardial infarction unless congestive failure supervenes. He has discarded its use in heart murmurs without heart failure. He no longer prescribes it as a routine preoperative preparation, save perhaps in auricular fibrillation. He has discovered that it will not slow the tachycardia of thyrotoxicosis. He has observed that in constrictive pericarditis the heart muscle, though imprisoned, is not diseased, and that digitalis is of no help. He has come to know how dangerous the drug may be in the acute myocarditis of rheumatic fever, of diphtheria, and other infections.

Digitalis has been called "the queen of the pharmacopea." If it is a beneficent despot, it is also a capricious and exacting one. Its toxic ef-

fects have been known since Withering's time: anorexia, nausea, vomiting, diarrhea, visual disturbances, and ectopic rhythms. With a wary eye on these warnings, the physician is apt to overlook the fact that the optimum dose is not that which falls just short of toxicity, but the minimum amount giving the desired therapeutic effect.⁵

Having determined that in a given case digitalis is indicated, the physician must next decide upon the form of the drug to be administered, the route, and the dosage. The difficulty here lies in the wide choice of official preparations. Given intravenously, 3 to 5 cat units of any of these preparations is sufficient to produce digitalization in man. On oral administration, however, the variation in dosage is extreme: 10 U.S.P. units of lanatoside C is insufficient to digitalize the average adult patient by mouth, whereas 10 U.S.P. units of digitoxin might prove to be a fatal dose. The amount of powdered whole leaf required for digitalization by mouth frequently contains more than 6 mg. of digitoxin,¹⁴ whereas only 1.8 mg. of crystalline digitoxin will produce digitalization in most patients.

There are two guideposts out of this therapeutic maze. The most obvious is Gold's⁸ observation that there is little need for parenteral digitalis medication. Intractable vomiting, coma, or acute left heart failure with pulmonary edema are the chief indications, and they are relatively uncommon. The method is, furthermore, not without danger. The second path to effective digitalis therapy lies in learning thoroughly one or two preparations and depending on them.

The standby of many practitioners is still powdered digitalis leaf. Because of variations inherent in bioassay, there is a wide range of potency among preparations from various manufacturers. The physician is well advised to limit himself to the product of one reputable manufacturer, and to become familiar with its dosage and limitations.

There are many schemes or plans for rapid digitalization with whole leaf, all revolving about the fact that the average patient requires 1.3 to 1.8 grams of the drug for full effect. Because of gastric irritation, this must be given in divided doses over a period of 24 to 48 hours. Since the whole leaf represents a mixture of active principles, the onset and duration of its effects are intermediate in time between those of rapidly acting digoxin and slowly acting digitoxin. Ampule preparations for parenteral use, representing mixtures of active principles, should be given in strict conformance with the manufacturer's recommendations, since the dose is entirely different from that when given by mouth.

Although the powdered leaf has been the mainstay of digitalis therapy for many years, it is fast giving way before the barrage of purified glycosides with which the profession is now being bombarded. A survey of hospital and retail pharmacies in this community shows that approximately three-fourths of all prescriptions for digitalis preparations now call for one of the active principles, chiefly digitoxin under one trade name or another.

Digitoxin, a derivative of *digitalis purpurea*, is a crystalline substance which can be standardized by weight rather than by the variable method of bioassay. It is constant in composition and potency. Since it is completely and rapidly absorbed from the digestive tract, only one dosage scale need be remembered for either oral or parenteral use. Being highly potent, a digitalizing amount can be given by mouth in a single dose or in two divided doses at four or six hour intervals; in our experience the average digitalizing dose is 1.2 to 1.8 milligrams. Our results have been uniformly satisfactory from the administration in a single dose of 1.2 mg. of digitoxin to patients in advanced congestive failure who have had no digitalis preparation in the preceding three weeks.

Digitoxin has certain disadvantages. It is more expensive than whole leaf. It is the most slowly excreted of the digitalis glycosides, so that once nausea or other toxic symptoms occur, they may require a week or more to disappear.

The rush of the commercial pharmaceutical houses to place digitoxin on the market has led to another difficulty in its administration. Most of the early products appeared in 0.2 mg. tablets, and many physicians were led to the belief that this represented the average daily maintenance dose, just as a 0.1 gm. tablet of digitalis leaf was the average maintenance dose of that preparation. As Gold⁹ has shown, digitoxin is approximately a thousand times as potent orally as whole leaf; thus the 0.2 mg. tablet of digitoxin is twice as potent as the 0.1 gram tablet of digitalis leaf. Our experience has been that 0.1 mg. of digitoxin daily is more often the maintenance dose than is 0.2 mg., and most manufacturers now offer the tablets in both sizes. Intermediate amounts are obtained by giving double the dose on one or two days weekly, or by omitting it entirely for one or more days a week. The lengthened therapeutic effect of digitoxin facilitates the maintenance of digitalization just as it prolongs toxic symptoms.

Digoxin is derived from *digitalis lanata*, and is thought to be the active principle in lanatoside C. DeGraff¹ and others consider it the ideal drug

for rapid digitalization by the oral route, because of its rapid dissipation by the body in three or four days rather than in one or two weeks as with digitoxin. It is marketed in 0.25 mg. tablets. For rapid oral digitalization, the average dose is 3.0 mg. given in 24 hours. Since the intravenous preparation is soluble only in a strongly alcoholic solution, it must be diluted before administration.

Both the physician and the pharmacist must guard against confusing digoxin with digitoxin; the similarity of names has led to at least one accident in dispensing in our experience. A maintenance dose of two 0.25 mg. tablets of digoxin daily is common, whereas the continued daily administration of two 0.2 mg. tablets of digitoxin might produce disastrous consequences.

Lanatoside C has been the object of much clinical investigation^{10, 11} in part because of the ease and effectiveness of its intravenous administration. Given parenterally, its effect is more rapid in onset than with digitoxin¹² and lasts from three to six days. It is therefore among the best of the available preparations for intravenous use in emergencies. The average digitalizing dose by vein is 1.6 mg., which may be given in divided amounts at two to four hour intervals. By mouth, its absorption is too variable to make it a choice for routine oral administration.

The fastest acting cardiac glycoside is ouabain, which is derived not from digitalis but from *strophanthus*. It is worthless when given orally, but on intravenous administration its effects are evident in ten to thirty minutes.^{1, 8} A half milligram may be given intravenously in a cardiac emergency, and 0.1 mg. every half hour thereafter to effect or until a total dosage of 1.0 mg. has been reached. The effects of ouabain are rapidly dissipated, and since it must be given intravenously it is unsuited for maintenance therapy.

With all digitalis preparations, administration must be much more cautious if there is a history or suspicion that the patient has had any cardiac glycoside in the preceding two or three weeks. An edematous patient may develop digitalis toxicity as he loses his edema fluid and absorbs its retained digitalis principles. Toxic manifestations may occur without appearance of a satisfactory therapeutic result, and when they develop the drug must be stopped even though congestive failure persists.

And finally, not even the "queen of the pharmacopeia" can reign without aides and retainers. The failing heart, however much improved, is rarely restored to normal by digitalis.¹² The physician's responsibility does not end when he prescribes digitalis; he must supervise the patient's activity

and diet, he must administer diuretics and sedatives, he must censure and reassure. Science may spur the flagging heart, but it is the art of medicine that must bolster the faltering spirit.

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DIURETICS IN CARDIAC FAILURE

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The presence of edema in the patient with congestive heart failure is in itself injurious. When waterlogged the vital functions of the cardiac musculature and the renal epithelium become impaired, increasing the edema and initiating a vicious cycle which will end in death unless interrupted. Hence, it often becomes of first importance to produce diuresis in the management of cardiac failure.

A proper discussion of the subject of diuresis would involve a detailed review of the physiology of edema, water balance and renal function. Since time does not permit, a very sketchy outline of the facts and theories behind the practical application will be given in the hope that it will prove adequate.

The glomerulus of the kidney is a simple filter which allows the tremendous amount of 170 liters per day to pass through it, holding back only molecules larger than hemoglobin, essentially the

blood proteins. The filtration is accelerated by the excess of blood pressure over the pressure in the renal tubule and retarded by the osmotic pressure of the blood colloids. It is certainly modified by the minute volume flow of blood through the renal artery.

The arteriole from the glomerulus fans out around the tubular system and here the opposite situation occurs. A low intravascular pressure is present and the osmotic pressure of the colloids has been greatly increased by their concentration. The water now tends to pass from the tubule into the vessels. In addition the renal epithelium has a vital function by which it extracts desirable substances from the urine, concentrates them, and returns them to the circulation. To accomplish this, most of the water filtered out in the glomerulus is also returned to the circulation. Certain materials such as urea are not reabsorbed and others, such as sodium chloride, are returned to the circulation according to need. In the normal person all the sugar is conserved.

The return of salt has been shown to be at an almost constant rate, regardless of the amount or concentration of the filtrate, within certain limits. This is highly important, since Na Cl is the most important osmotic element of the blood, and since there is a specific action of sodium in the retention of water. Edema fluid cannot be retained in the extra-vascular spaces without an excess of sodium being present.

The vital function of the tubular epithelium is under the control of hormones from the adrenal cortex and posterior pituitary. This is illustrated by the dehydration of Addison's disease and the constant diuresis of diabetes insipidus, both correctible by the use of the proper hormone in modulating the acceptance or rejection of salt by the renal epithelium.

Diuresis may be obtained in many ways both physiologic and pharmacologic. The most obvious is the improvement of cardiac function by rest, digitalization, etc. This is in the field of the other speakers and will not be discussed further.

Another physiologic method of producing diuresis is by the restriction of sodium. If the sodium content of the body can be lowered below a certain critical level edema fluid can no longer form. The normal diet contains about 10 grams of sodium daily and the normal kidney excretes all but 3 grams, which it returns to the circulation. If one reduces the salt intake to this figure no results are obtained except possibly to prevent the formation of more edema. Below this figure the kidney still conserves salt, but since it is un-

able to remove *all* the salt from the urine with sufficient reduction diuresis will ensue. For practical purposes the daily intake of sodium must be reduced considerably below 1.0 gm. This is a difficult diet to maintain because meats, eggs, dairy products and bread are all rich in sodium. The diet is unpalatable and one must guard against a protein deficiency. Many diets have been published and are available. The use of salt free protein hydrolysates and dialyzed milk can greatly facilitate their use. For temporary purposes almost everyone is familiar with the diet of fruit juice and skim milk, the latter limited to one quart. For less than one week this is not intolerable and time is allowed to institute other measures. In the restriction of salt one should remember that many common drugs contain sodium and should be avoided and that softened water is often high in sodium.

A third physiologic method of obtaining diuresis is by the forcing of fluids. Paradoxically the ingestion of large amounts of water will result in the reduction of edema, and this can be combined with salt restriction to good effect. Two mechanisms are thought to apply: (a) hydration is believed to inhibit the activity of the posterior pituitary, and (b) such large quantities of water will "wash out" salt at a concentration so low that the renal tubules cannot reabsorb it. From 4 to 7 liters daily are needed unless salt is restricted. The work of Schemm has effectually shown that the restriction of fluids in edema is neither desirable nor useful.

As a final physiologic method, the increase of the colloidal osmotic pressure of the blood plasma has little application in cardiac edema and will be passed over at this time.

Too often these physiologic measures are inadequate or too slow and pharmaceutical diuretics are needed.

Any substance which will acidify the urine will serve as a diuretic, ammonium chloride being the classical example. Ammonia is converted to urea and excreted, leaving an excess of Cl. ions which will unite with sodium, withdrawing it from the tissues. Large doses are needed and cannot be tolerated indefinitely because acidosis will be produced.

Many chemical substances are filtered through the glomerulus but rejected by the tubular epithelium for reabsorption. By their osmotic effect they will extract significant amounts of water from the circulation. The most useful member of this group is urea which when given in adequate amounts will produce an effective diuresis.

The xanthine group of drugs have a diuretic

action, the exact nature of which is not known. They are thought to increase the blood flow in the renal artery, and there is some evidence to show that they act in a manner similar to the next group.

The mercurial diuretics are the most certain and effective. The original mercurial was calomel, but a long list of nonionized organic mercurials has been developed. The later drugs have been improved so as to be more effective and less toxic progressively. They apparently act by inhibiting reabsorption of salt in the renal tubule. Commonly they are combined with xanthines and recently with Vitamin C, either to increase effectiveness or to reduce toxicity. As used at present, mercurials are exceptionally safe drugs and useful except when glomerular filtration is suppressed, at which time they should be avoided.

In eclampsia, nephritis and even in terminal stages of cardiac failure the glomeruli become so damaged as to allow little urine to filter through. Under these circumstances mercurials cannot exert their effect and will accumulate with toxic potentialities in the system. This constitutes the only real contraindication to their use.

The program which we have followed when confronted with a massively edematous patient in congestive heart failure is in general as follows:

a. The usual features of rest and digitalization are instituted, frequently with oxygen.

b. Salt is restricted by means of a skim milk and fruit juice diet to be liberalized later as needed.

c. Water is given *ad lib* and the patients are urged to take 3-4 liters daily.

d. Ammonium chloride in doses of 8.0 gm. daily is given for four to five days. If there are no contraindications, mercurhydrin is given, 2 cc. intramuscularly every 24 hours. Occasionally more frequent doses are needed. Future dosage is governed by need as estimated by daily weight loss. This is more reliable than intake and output charts and much simpler. Trial and error methods determine the eventual need for continued use of diuretics, and weekly doses for years have been used. Toxic effects are very slight with the newer drugs, and by avoiding the intravenous route hazard is virtually eliminated.

Just as the development of edema is a vicious cycle, so diuresis may be a beneficial one; as sodium is washed out of the system, diuresis continues until equilibrium is achieved. Frequently it is possible to discontinue mercurials after a few days. One must not forget that this same regime may be used for very mild decompensation without

visible edema and continued until the weight levels off with marked benefit.

Recently Harry Gold has presented a new philosophy of mercurial administration which we have been trying with satisfaction. He argues that it is illogical to allow the edema to form and then eliminate it at recurrent intervals. The analogy of diabetes is drawn and he advises that patients be taught to give their own intramuscular injections daily. Reduction may then be made in the size of the dose rather than in the number of injections, 0.5 cc. being a common daily dose of the drug for maintenance. It appears that we are entering a new era of cardiac management in which salt restriction and mercurial diuresis will come into their own along with effort restriction and digitalis.

**IOWA METHODIST HOSPITAL
CLINICOPATHOLOGIC
CONFERENCE**

April 12, 1948

R. F. Birge, M.D.
Joyce Perrin, M.D.
Thomas McMullen, M.D.
Frank A. Ely, M.D.

Des Moines, Iowa

Abstract of Clinical Record

Dr. R. F. Birge (Pathology): A 64-year old white furniture mover entered Iowa Methodist Hospital on April 9, 1947 in coma. The only available history follows:

*Present illness (from physician's office records).—*The man was first seen in his doctor's office on March 28, 1947, complaining of a sore on his hand where he had bumped it two and a half weeks previously. He also complained of weakness, which he attributed to "flu" (headache, chills, sweats, bone aches), from which he asserted he was just recovering.

On the dorsum of the right hand, a furuncle, measuring about 3 cm. in diameter, was observed to show a dirty, gray, swollen center without much pus; the hand was not swollen; there was no lymphadenopathy. His general condition was good. He was afebrile. He was instructed to use moist hot packs on the furuncle, and was given ammoniated mercury ointment to apply.

On April 7 he returned complaining of frontal headache and mild dizziness, but was chiefly concerned because he had been unable to control his urine during the past three days. He had night frequency (about three times) and often wet the bed before he could get up. Bowel control was

good. Except for unsteady gait, the physical examination was negative. The temperature was normal. The furuncle was almost healed. Urinalysis was negative.

On April 9 he was seen because he had refused all day to get up from his chair at the kitchen table. He was apathetic and would not talk or eat. The muscles of the arms and hands showed twitching at times. In the evening he entered the hospital.

*Additional information (Informant: Sister).—*The patient had always been an active, hard-working man, but for the past three weeks he had just lain around home. He was very slow to respond. When spoken to, he would stare at the speaker with a vacant look and say nothing. His walking had gradually slowed and had become progressively more unsteady. In attempting to sit down, it was necessary for him to accomplish the act in two distinct movements. All movements were slow and unsteady.

He had lost no weight. His appetite was good until the day of admission. He would drink one or two bottles of beer per month, and would go on a drinking spree once or twice a year. The last such episode had occurred a few months prior to admission, when he had come home with a black eye caused by a fall on the ice.

Entrance physical examination.—A well developed, well nourished, white, elderly male was sleeping soundly, and could not be aroused. The pulse was 68, the respiration 16, the temperature 98 F., and the blood pressure 128/62. The head, ears and nose were negative. His jaws were fixed, but, when his mouth was forced open, it was noted that the tongue was dry and the teeth and gums were in poor condition. Examination of the chest revealed no significant findings. The abdomen was flat and thick-walled; there were no hernias, scars, masses, rigidity or tenderness. The liver and spleen were not palpable. The extremities showed rigid resistance to passive motion, most marked in the upper limbs. There was a coarse tremor of both arms, most pronounced on the right. The lesion of the right hand was healed.

Consulting neurologist's examination.—The pupils were equal; the right pupil was slightly irregular. Neither pupil reacted to light. The ocular fundi were normal; there was no papilledema.

Questionable stiffness of the neck was present. There was marked spasticity of all extremities, especially the right upper. The abdominal and cremasteric reflexes were absent. Knee reflexes were active (2 plus) and equal. Ankle reflexes were active (3 plus) and equal. There was bi-

lateral ankle clonus. Plantar extension responses were obtained bilaterally.

Entrance laboratory examinations.—The hemogram was: erythrocytes 4,590,000 per cu. mm., hemoglobin 13.9 grams per cent, leukocytes 12,850 per cu. mm. with neutrophils 65 per cent, band cells 5 per cent, lymphocytes 27 per cent, and monocytes 3 per cent. The urine had a specific gravity of 1.020 and contained a trace of acetone; there was no albumin or sugar; microscopic examination was negative. The blood urea nitrogen was 14.9 mg. per cent. The Kline and Kahn tests were negative. Agglutination reactions for brucellosis, typhoid fever, and tularemia were negative. The spinal fluid was under an initial pressure of 446 mm. of water, rising to 600 mm. with jugular compression. The first few drops were slightly amber-tinged, but the remainder of the 7 cc. of fluid collected was crystal clear. The cell count was 0. The spinal fluid sugar was 62 mg. per cent; the total protein 15 mg. per cent; and the chlorides 709 mg. per cent.

Course.—He remained afebrile. On April 10 penicillin was started (50,000 units every three hours). Late in the evening, 1000 cc. of 10 per cent glucose in normal saline was given intravenously. On April 11 he was still comatose, but rigidity was gone from all extremities. The blood pressure was 122/76. At 3 p. m. he suddenly became very cyanotic. The pulse was very rapid. When seen by an intern, the cyanosis was observed to extend over the head, face and neck down to the level of the clavicles. Respiration could not be detected. The pulse was very faint and irregular. He was pronounced deceased at 3:25 p. m. An autopsy was performed.

Clinical Analysis

Dr. Joyce Perrin (Neuropsychiatry): Having carefully reviewed the history as it is recorded, there are two things which I wish to emphasize:

1. The patient's course was consistently one of progression of symptomatology from the time he was seen in his physician's office on March 28 to the time of death on April 11. On March 28 his general condition was good. On April 7 he was unsteady as he walked, and at the time of admission to the hospital on April 9 he was in a coma from which he did not arouse.

2. In addition to the neurologic signs, the principal finding was an elevated spinal fluid pressure (460 millimeters of water, rising to 600 with jugular compression, 200 millimeters usually being considered to be the upper limit of normal).

In chronologic order this patient's history presents the following significant data:

1. A history of trauma which occurred a few months prior to the time of admission, when he was reported to have had a black eye following a fall on the ice during an alcoholic spree; whether or not he was unconscious at the time is not known.

2. A history of infection. On March 28 he complained of "flu" which had been associated with headache, chills, sweats and bone aches. At that time he had a furuncle on his right hand for which he received treatment.

3. On April 7 he first complained of neurologic symptoms—headache, dizziness, inability to control his urine, and urinary frequency of three days duration.

How could trauma have caused the clinical picture which the patient presented at the time of hospital admission? In my opinion it could have done so by producing:

1. Subdural hemorrhage.

2. Activation of previously quiescent neurosyphilis.

3. Hemorrhage into a previously existing brain tumor.

How could infection have caused a similar clinical picture? It could have done so by producing:

1. A typical encephalitis.

2. Brain abscess, single or multiple.

On the other hand, trauma and infection could be mere incidental happenings in the life of a 64 year old man with a previously existing primary brain tumor, metastatic malignancy, or cerebrovascular damage.

In considering the possibility of subdural hematoma, one must remember that this condition is often silent, and rarely causes symptoms until there is increase in intracranial pressure. Sufficient time must elapse following trauma for localized and generalized intracranial pressure to develop. Subdural hematoma is more frequently found at autopsy than is the clinical diagnosis made. In my opinion, the clinical picture in this patient could all be explained by increased intracranial pressure, secondary to subdural hematoma. Consciousness could be impaired, and pressure could cause sufficient irritation of the basal ganglia, bilaterally, for the deep reflexes to be increased in both lower extremities with associated loss of superficial reflexes. This diagnosis is also consistent with the laboratory findings. The slight elevation in leukocyte count could well be explained on the basis of dehydration. Subdural hematomas are encapsulated tumors, and therefore one could anticipate that neither the spinal fluid count nor the protein would be increased.

It is always possible for trauma to aggravate previously quiescent neurosyphilis. The pupils

are reported to have been fixed, and the right pupil irregular. These are common occurrences in neurosyphilis but may be caused by other lesions or by pressure on mid-brain structures. The blood Kahn and Kline are reported to have been negative. Serologic tests on the spinal fluid are not mentioned, and neither is there a colloidal gold curve reported. While the possibility of neurosyphilis cannot be completely eliminated, it seems relatively improbable in view of a previously negative history and negative blood tests.

It is possible for brain tumors to remain silent until trauma increases the amount of tissue involved to such a degree that symptoms occur. Such symptoms may be the result of hemorrhage into a tumor or adjacent vital areas, or possibly of rapid spread of a tumor secondary to trauma. However, one would anticipate a sudden change in the clinical course, or an increase in the spinal fluid protein, leukocyte count or erythrocyte count, under such circumstances.

In the past twenty years much has been learned about encephalitis. However, we are aware that there is much about atypical forms of encephalitis which we do not know. This has recently been brought to my mind by veterans who were Japanese prisoners of war; these men frequently give a history of having had sleeping sickness, while prisoners of war, from which they apparently made satisfactory recovery. Four or five years after the acute illness, they are presenting themselves with complaint of headache and bizarre neurologic findings. This patient does give a history of an infection on his hand which had been preceded by what he referred to as "flu". The severity of his illness at that time is not clear, but apparently the mental symptoms and neurologic signs developed following the episode. As only a three week interval had elapsed, one would, however, anticipate persistent elevation in the spinal fluid cell count and protein at the time of hospitalization. While the residuals of encephalitis are frequently manifested by mid-brain involvement, these are late complications and are not usually associated with the acute phase. I believe, therefore, that we can postulate that the patient did not have encephalitis.

An encapsulated brain abscess could also explain the syndrome of increased intracranial pressure which the patient presented. There is a history of a focus from which such an infection could have arisen, and all of his symptoms are said to have developed following the onset of the infection. However, on March 28, April 7, and again at the time of hospitalization on April 9, he was afebrile. If a severe infection had been present,

one would anticipate a febrile reaction at some time during the course of the illness. The leukocyte count is reported as having been 12,850 with an essentially normal differential count which also speaks against infection. No sedimentation rate is reported. Furthermore, there were no cells in the spinal fluid, which, while it does not rule out a brain abscess, makes it improbable.

The number of years which have been added to man's life expectancy has tended to focus our attention on the frequency of malignancies in people of the older age groups. The rapidity of this patient's down-hill course following the onset of symptoms seems to me to argue against a primary brain tumor. Also, along with elevation in spinal fluid pressure, one would anticipate that the cell count and the total protein in the spinal fluid might be increased. I think the probability of the patient having had a metastatic intracranial lesion can be discarded, inasmuch as the record reveals no evidence of primary disease elsewhere.

In the general examination no mention is made of the amount of arteriosclerosis which this patient might have had. Arteriosclerotic aneurysms are not infrequent occurrences in older people, but rarely, if ever, are they of sufficient size to produce symptoms of intracranial pressure. Aneurysms secondary to periarteritis nodosa are rarely of sufficient size to cause increase of intracranial pressure. Within the past year some of us had opportunity to observe a patient who developed an expanding intracranial lesion complicating disseminated lupus erythematosus. However, no findings to suggest lupus erythematosus are recorded in this case.

Having considered the various diagnostic possibilities, in my own mind the most acceptable explanation is that the patient's illness and death occurred secondary to trauma. In my opinion, the symptoms, signs, clinical course, and mode of death can all be explained on the basis of increased pressure, secondary to subdural hematoma.

Diagnoses

Clinical Diagnosis: Encephalitis, atypical.

Dr. Perrin's Diagnosis: Subdural hematoma.

Anatomic Diagnosis: Subdural hematoma, bilateral.

Summary of Necropsy Findings

Dr. Birge: On the left side, we found a subdural hematoma which measured about 2.5 cm. in thickness. It was surrounded by a thin fibrinoid membrane which was easily torn. It was adherent to the dura, and separated readily from the arachnoid. This membrane was lined by strands and

small masses of dark colored blood clot which appeared old, but its content was chiefly an accumulation of cloudy yellowish-brown fluid.

On the right side, a slightly smaller but very extensive subdural hematoma was also found; this one measured about 2 cm. in thickness; it also possessed a thin, rather fragile membrane; it was composed chiefly of dark red clotted blood. From the soft clot, which again appeared old, pinkish fluid escaped, but there was no actual liquefaction of this clot.

The convex surfaces of the cerebral hemispheres were markedly depressed, the depressions coinciding with the locations of the hematomas. There was no evidence of epidural or of subarachnoid hemorrhage. The cut surfaces of the brain were not remarkable except for collapse of the lateral ventricles. There was quite marked herniation of cerebellar tissue along the brain stem, and herniation of the temporal lobes through the incisura tentorii. The cerebral arteriosclerosis was minimal; there were no congenital aneurysms; there was no evidence of fracture of the skull. The rest of the body was not examined.

I have asked Dr. McMullen to review the current literature, and to report to you particularly concerning the pathogenesis and certain clinical aspects of subdural hematoma.

Discussion

Dr. McMullen: Subdural hemorrhage has been classified as acute and chronic. Acute subdural hemorrhage is generally associated with severe cerebral injury, usually contusion or laceration. As a rule, the arachnoid is injured permitting free communication of the subdural space with the subarachnoid space. Therefore, one seldom sees the classic picture of subdural hematoma complicating severe cranial injury, because the blood escapes into the subarachnoid space and an encapsulated hematoma is not formed. For the classic symptoms of subdural hematoma to develop, the arachnoid must be intact.

Voris¹ classifies chronic subdural hematoma as those cases in which the interval between injury and surgical treatment is more than one week. It is generally agreed that the most important etiologic factor in its production is trauma. Aside from trauma, the most important factor is the anatomic arrangement of the cerebral cortical veins which pass at a right angle into the superior longitudinal sinus, bridging the subdural space. Their connections to the superior longitudinal sinus are fixed, while their bridging portions are quite moveable and poorly supported. A blow to the frontal or occipital region, with its force exerted in an anterior or posterior direction, might

conceivably cause rupture of one or more veins near the points where they enter the superior longitudinal sinus.

There is some controversy as to whether encapsulation of a subdural hematoma results from the formation of a membrane about a clot situated subdurally, or whether the encapsulation is a result of intradural hemorrhage with splitting of the dura into a thick outer and a thin inner layer. According to Leary², intradural hemorrhage occurring in cerebral injury, is merely petechial, and the larger clinically significant hemorrhages are subdural.

Ordinarily, when a clot of blood forms within the body, it is organized and eventually replaced by reparative tissue. However, subdural hematomas tend to liquefy and enlarge in advance of repair processes. The clots remain unorganized, except for formation of thin membranes about them, thought to be derived largely from the dura.

Gardner³ believes that the capsule which forms around a subdural hematoma acts as a semi-permeable membrane. Since the hematoma is rich in protein, the difference in osmotic pressure existing between the encapsulated blood and the surrounding fluid tends to increase the size of the hematoma, and to increase the pressure effect, accounting for the characteristic progression of symptoms one sees in these patients.

Subdural hematoma occurs more frequently in men than in women, perhaps because the former are more often subject to trauma. It occurs at all ages, and is most frequent after forty years of age. An antecedent history of trauma can in many instances be elicited, but often the injury is trivial and not distinctly remembered by the patient. Symptoms usually develop slowly. Frequently, a period of several weeks or months may pass by before symptoms are manifest.

Signs and symptoms in subdural hematoma range from mild mental disturbances to coma. Headache is common. Other evidence of increase in intracranial pressure develops. Voris¹ regards the pupillary signs as very important. In his one hundred consecutive cases, approximately one-half showed unilateral dilatation of the pupil. One-third showed papilledema. Xanthochromia of the spinal fluid was present in over 50 per cent. However, he maintains that the finding of xanthochromic spinal fluid within the first two weeks after a cerebral injury must be disregarded as evidence of subdural hematoma, since the color change might be explained by subarachnoid hemorrhage occurring at the time of injury.

In the management of recognized cases of subdural hematoma, it is well to remember that the

condition is often bilateral. In infants, the condition is very frequently bilateral; twenty-six out of twenty-eight cases reported by Statten⁴ were bilateral.

Comment

Dr. Fred Sternagel (Internal Medicine): I cannot add to Dr. Perrin's brilliant discussion, but I will speak of the history briefly. To me the picture was very confusing. One could not get much history from the patient. When he first came to me his only complaint was of the sore on his hand. He had always been rather slow mentally. Although his mental responses at the time of the first examination seemed a little sluggish, he gave the excuse that he had just gotten over the "flu." When he returned to the office four or five days later, he seemed to be a little more inclined to stagger when he walked. He complained bitterly about urinary frequency for which I could find no apparent explanation, so I let him go home. Later, I sent him to the hospital. At no time was head trauma mentioned.

Dr. Frank A. Ely (Neuropsychiatry): The patient, whose history has just been discussed, had a massive bilateral subdural hemorrhage. I failed to make the diagnosis. I hope the lessons to be learned from this case will help you and me avoid making further diagnostic errors of similar character. I would like to cite two other cases:

Case 1. A traveling man was in an automobile accident. Afterwards he was temporarily dazed and confused, but he had no skull fracture and was up and about in seven days. He then drove his car home to Des Moines, a distance of a hundred miles. He continued to have severe headache of increasing intensity. After two weeks, he became cloudy mentally and merged into coma. At bilateral occipital trephine, eight ounces of blackish blood spurted out of the incised dura on the left side. He regained consciousness on the operating table, and full recovery ensued.

Case 2. A boy, age 16, sustained a blow on the cranial vertex during a basketball game. He was slightly stunned and his left arm was immediately weak. After his companions massaged the arm, he went back and played through the game. During the following week he had headache, but he played another basketball game. From exertion in play, his left arm went weak again. Headache persisted. Gradually, weakness of the left face, arm and leg developed. Increasing mental sluggishness, ending in coma, followed. Examination revealed papilledema. Bilateral occipital burr holes were made. When the dura was nicked on the right side, six or eight ounces of black blood spurted out. The patient regained

consciousness on the operating table, and began to use the left arm immediately. He made a full recovery.

I want to speak of the confusion that may arise in diagnosis of subdural hematoma. Even in these cases where continuity in the history was very good, we still questioned whether there might not be something else, for each of these individuals had previously been operated on for a neoplasm. Dr. Henry Decker and I, therefore, seriously considered the possibility that we might be dealing with cerebral metastases. Hence, we decided to do ventriculograms, and put the burr holes in the occipital areas in both cases. In both cases we "struck oil" beautifully. The procedures were done under local anesthesia, so we had a beautiful chance to see what happened when the pressure was relieved. It seemed almost like bringing somebody from the dead to observe the man arouse, and the boy begin to talk and move his arm while still on the operating table.

These two histories illustrate instances of reasonably easy diagnosis. In the case reviewed by Dr. Perrin, the confusion arose out of a vague and uncertain history. The following features should have been more seriously considered: *First*, gradual onset of coma without other adequate explanation. *Second*, and this is most important, bilateral hemiplegic spasticity with marked bilateral pyramidal tract phenomena. He had a bilateral Babinski response. He had loss of the abdominal reflexes on both sides. He had very marked rigidity, which should have made us think of bilateral cortical involvement. *Third*, spinal fluid pressure of 44 cm. It is rather interesting to recall that we sometimes get choked disk with very small tumors, even though they are not subtentorial, yet here there was severe compression of both cerebral hemispheres without papilledema.

Dr. Maurice J. Rotkow (Internal Medicine): Can anyone give the reason why there are two points of view concerning the necessity of removing the sac formed around a subdural hematoma as a so-called fourth membrane?

Dr. Ely: In the two cases I cited there was no membrane removed although the clots were definitely encapsulated, yet the patients made complete, uneventful recoveries.

Dr. Birge: I would imagine that the important thing is that most of the clot be removed. It is the protein content of the clot which attracts fluid by osmosis producing increase in size and increase in intracranial pressure. The content of a subdural hematoma is usually liquid or semi-solid, and, as in Dr. Ely's cases, one would anticipate that good results should usually be obtained by simple evacuation.

Dr. Henry Decker (Neurosurgery): Most patients will recover following simple but thorough evacuation of a hematoma. However, in some instances there will be a reaccumulation of fluid, and it may then be necessary to again evacuate the fluid through a ventricular needle or by other means, or to carry out an osteoplastic flap with removal of the neomembrane. The latter procedure can usually be carried out more safely at a later date as the patient is usually in better condition to stand such a procedure.

Dr. W. W. Hayne (Internal Medicine): If you operate a case of subdural hematoma too early, is there danger of continuation of the bleeding?

Dr. Decker: The possibility of recurrent hemorrhage is rather remote when one considers the time interval between the initial hemorrhage and appearance of symptoms. By the time the diagnosis is made and the patient is operated upon, thrombosis and organization of the damaged veins has probably taken place, precluding the possibility of recurrence of hemorrhage.

Dr. Tom D. Throckmorton (Surgery): Why the extreme cyanosis?

Dr. Ely: This was a respiratory death produced by medullary compression with ischemia of the medulla.

Dr. Throckmorton: Why was the cyanosis limited to the head and neck?

Dr. Ely: Did you ever notice how histories are sometimes written on charts?

A physician: Thrombosis of the superior vena cava will produce such a picture.

Dr. Birge: One would presume that cyanosis was present elsewhere, but less pronounced. The patient was in extremis, and presumably the intern did not have time to examine the fingers and toes for evidence of cyanosis. Concerning thrombosis of the superior vena cava and its large tributaries, one must remember that there was no accompanying edema, and that the cyanosis was an agonal phenomenon. However, we were not permitted to examine the remainder of the body and thus cannot answer this question with finality.

Dr. Perrin: I have observed other patients, dying of medullary compression, to show similar pronounced cyanosis above the level of the clavicles. The phenomenon must be related directly to the herniation of the medulla and cerebellar tonsils into the foramen magnum, but I am sure that actual occlusion of the large veins of the neck does not occur.

Dr. Birge: I feel that one point should be re-emphasized. The absence of a history of trauma must be discounted when the question of subdural hematoma enters into the differential diagnosis. I

have seen several cases of subdural hematoma come to autopsy undiagnosed with no history of trauma in the clinical record. In the case under discussion, the history of possible trauma was obtained from the sister after the autopsy.

In closing, may I stress that subdural hematoma is not infrequent in infancy, occurring secondary to birth injury. Babies with subdural hematoma do not do well, and frequently the only evidences of the disease are irritability and failure to gain weight. The condition must be thought of if it is to be diagnosed. Convulsions are often absent, as are localizing neurologic findings. The diagnosis is established by passing a needle laterally through the anterior fontanelle. One obtains bloody fluid if subdural hematoma is present. Dr. McMullen has already told you how commonly the condition is bilateral in infants, and one must not forget to examine both sides. Careful management is indicated, and surgical measures are employed only after adequate preparation of the infant. Ingraham and Matson⁵ have discussed this condition rather fully in a classic article published in 1944.

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SPECIAL ARTICLE

BLUE SHIELD, OR COMPULSORY GOVERNMENT INSURANCE

Paul R. Hawley, M.D.

The dangers that threaten the free practice of medicine in this country are fast becoming critical, and still we delay in uniting in decisive action to meet them.

We waste precious time in quarreling among ourselves over petty questions of local sovereignty. We amuse ourselves by setting up fantastic straw men, and dissipate our energies in knocking them down, while our enemies have been uniting against us in one national effort. We have thus far done no more than fight a series of rear-guard actions with small unorganized and uncoordinated groups. I know of no more certain road to disastrous defeat.

Our national leaders seem to be purposefully

Speech delivered at the conference of presidents and other officers of state medical associations, June 20, 1948. Dr. Hawley is chief executive officer of the Blue Cross-Blue Shield Commission.

blind to the social changes that are taking place. It is impossible to halt a movement by merely refusing to recognize its existence; and this movement toward extending the benefits of adequate medical care to all of our citizens has already gained too much momentum to be halted by any means. The last hope of American medicine lies in abandoning our present position in the rear of the column, where we have been holding back, and establishing ourselves firmly in the forefront, where we can guide and direct the movement into paths that are the best for our people as well as best for our profession. I emphasize that the welfare of our people must be given at least as much consideration as the welfare of the health professions. Too many physicians regard medical care as their exclusive prerogative. We must recognize that the consumer of medical care also has a great stake in it; and, if there has existed any doubt as to this, it should have been dispelled by the deliberations of the National Health Assembly, held in Washington early in May.

I shall offer no defense of the motives that prompted the organization of this assembly. They may have been, as has been charged, largely political. But however impure the motives, only a very stupid person could have listened to the discussions in the Section on Medical Care and come away unimpressed both by the strength and the determination of the groups committed to an effective program for prepayment of medical care. I emphasize "effective," because the preponderant opinion there expressed was that existing plans are acceptable only so far as they go, that they do not go far enough, and that, if they are to be fully acceptable as a substitute for compulsory government health insurance, the coverage they offer must be extended considerably, and must be uniform throughout the country. In fact, a resolution to the effect that only a compulsory government insurance plan could satisfy these criteria was proposed, and vigorously supported by the American Federation of Labor, the Congress of Industrial Organizations, the Cooperative League of America, the National Cooperative Health Federation, the National Federation of Settlement Workers, the Committee for the Nation's Health, the American Association of Social Workers, the Physicians' Forum, the National Consumers' League, the National Women's Trade League, the United Mine Workers, the American Veterans' Committee, the National Farmers' Union, the Physicians' Committee for Improvement of Medical Care, the League for Industrial Democracy, and the Association for the Advancement of Colored People.

This conclusion was not adopted, for the reason that adoption of any conclusion required the unanimous approval of the Steering Committee; and a single dissent was sufficient to defeat a proposal. But the array of strength behind this conclusion should convince even the die-hard Tories in the health professions that the threat of nationalization of medical care in this country is real, is acute, and soon will be, if it is not already, sufficiently great to precipitate action by the Congress. The press carried yesterday the news that the Wagner-Murray-Dingell Bill would not be reported out of committee during this session of the Congress; but it also stated that hearings upon this bill would be resumed in March, 1949. So the bill is far from dead. The representatives of the people, in Congress assembled, are swayed by numbers of voters rather than by principles. Even discounting the smaller and the more radical groups demanding national health insurance, we still have the A. F. of L., the C.I.O., the National Women's Trade League, the United Mine Workers, and the Association for the Advancement of Colored People demanding national health insurance. These represent a lot of votes. I am sure they represent more votes than have yet been mustered in favor of equal rights for Negroes, and look what has been accomplished in this direction within a very short time. If this array of political strength is not enough to shock the medical profession out of its lethargy, then we are hopelessly lost and there is no use continuing the struggle.

What, then, will be the future of the voluntary prepayment plans for medical care—both commercial and nonprofit? Those demanding national health insurance were generous enough to state that the voluntary plans should continue in operation after the inauguration of national health insurance. This, of course, was but a courteous gesture since it would be impossible for voluntary plans to compete with a government plan. The handicap would not be one of cost, because the voluntary plans can do the job cheaper than the government can. But the fact that the government plan would be supported at least one-third by tax money and that everyone would have to pay this tax, whether or not he subscribed to a voluntary plan, would dissuade the taxpayer from supporting two plans at the same time.

Since it is impossible for voluntary plans to survive if and when national compulsory health insurance comes, we are going to have one or the other type of prepayment health insurance—not both. So, the future of the voluntary plans depends entirely upon the prevention of the enact-

ment of national compulsory health insurance legislation.

This cannot be prevented through political manipulation. It is my considered opinion that, if left to popular vote, this legislation might pass today. Certainly the strength mustered in its support at the National Health Assembly surprised even its protagonists—and was something of a shock to me.

But this disastrous legislation can be prevented if the voluntary plans meet every reasonable demand for health insurance. I specify "reasonable demand" because, as all of us know who are familiar with the problems involved, some of the demands expressed at the National Health Assembly are impossible of fulfillment at the present time, and for some years to come.

There were unanimously adopted by the Medical Care Section seven criteria for measuring the effectiveness of prepayment plans in meeting the medical care needs of the people. I shall discuss only the more important of these as they point the goals which must be reached by voluntary prepayment plans if they are to be considered adequate to the people's needs.

The first criterion is "the extent to which a prepayment plan makes available to those it serves the whole range of scientific medicine for prevention of disease and for treatment of all types of illness or injury." To meet this criterion, voluntary plans must be in a position to offer as comprehensive a coverage as the public demands, regardless of cost. Since many people do not desire so complete a coverage, and are unwilling or unable to pay its cost, this means that plans will have to offer more than one type of contract. This will not be at all difficult once a competent actuarial service is established. I can think of no good reason for limiting the offering of a prepaid medical care plan to a single type of contract. We must always, of course, offer a contract that is within the economic reach of the low-income groups who must bear all or part of its costs. But these large union groups are demanding a much more comprehensive service, and are willing and able to pay for it. We simply must be in a position to offer them a contract that meets their requirements, or we shall not only be forced out of business but also we shall have compulsory government health insurance as a reality instead of as a threat.

The fact that the fee schedules for the low-income group contracts are inadequate for the higher-income contracts need give no physician any concern. It is quite easy to arrange a separate fee schedule for each type of contract. For

the higher-income groups, the fees should be higher, and should correspond to the fees normally charged such groups. The wealthier groups expect that—in fact, I am sure that they would demand it, because they do not want to be regarded as charity patients—and they are willing to pay the additional premium for their coverage.

What can it matter to the participating physician whether the patient pays the bill from his private income, or whether the bill is paid by the medical care plans, so long as the amount paid corresponds with the fee customarily charged in that income level? Even if there is some objection to such a procedure, the alternative is to lose millions of potential patients to employee-benefit associations and medical cooperatives operating their own clinics and hospitals. I cannot stress too strongly the fact that this movement has already reached the point where the medical profession has the choice only of making a reasonable effort to meet the requirements of these large groups of consumers of medical care, or of watching the private practice of medicine in this country being rapidly strangled by either cooperative or government medicine. No other alternatives are left. All other alternatives have been lost in the ten or fifteen wasted years in which organized medicine has pursued an entirely negative course in dealing with this social problem.

The next point of the greatest importance is that these large groups will not be satisfied with anything short of uniform coverage for their members regardless of their place of residence. They simply will not deal with fifty-one separate Blue Shield Plans. Already the United Mine Workers, with 400,000 members, have a 10-cent per ton levy solely for health and welfare. As we assemble here, a union with more than 1,000,000 members is negotiating with a large industrial corporation for a 10-cent per hour increase in wages, to be devoted exclusively to a health and welfare program. Another union, with more than 1,000,000 members, has already appointed a medical advisory council to formulate a prepaid health program for its members, to be paid for by a similar 10-cent per hour raise in pay.

Is organized medicine guiding and directing these programs? It is not! I happen to know some of the members of this medical advisory council of this gigantic union. I can tell you that they are openly committed to government compulsory health insurance. Let me give you the names of some of them—Fred Mott, who is directing the government medicine program in Saskatchewan; Dean Clark, who is director of H.I.P. in New York; Jack Peters, who is Sec-

retary of the Committee of Physicians for the Improvement of Medical Care. I can tell you further that the plan for the medical care of this large union, which was proposed at the first meeting of this medical advisory council, was similar to that of the Health Insurance Plan of New York—the establishment of clinics in every center of this union population, and these clinics to be operated by salaried physicians. This association is on record as opposing such a plan for medical care.

Why was not organized medicine approached for advice and counsel in the establishment of these huge programs for prepayment of medical care? I'll let you answer that question. But doesn't it shock you, doesn't it give you a feeling of insecurity that the leadership of these great movements, which will exert the most profound effect upon medical practice in this country—that the leadership in these movements has slipped from the grasp of organized medicine? . . . I can tell you that it disturbs me deeply, and that I am convinced that the cause is lost unless you take prompt and effective action to regain control of medical practice in this country. I say "regain" because I am afraid you have already lost it, whether you realize it or not. And you are not going to regain it through the methods you have followed during the past ten years.

Some three weeks ago I had a conference with one of the most powerful, if not the most powerful, labor leaders in the United States. This organization, of which he is the president, controls many labor unions with millions and millions of members. He has already started this movement for a prepaid medical care program in two of his largest unions, and he assured me that it would be carried on throughout the labor empire that he controls. I am violating no confidence when I tell you that he exhibited a strong bias against the attitude that organized medicine has displayed up to the present moment. His closest welfare advisers made it very clear to me that they would deal with the voluntary nonprofit prepayment medical care plans only if these plans met their requirements to a reasonable degree. They did not display an adamant insistence upon 100 per cent performance at once but they set forth a few principles upon which they would not compromise.

The two most important principles upon which they would insist in full were uniform coverage in every area in which their members reside, and a single contract with one labor-management board regardless of the number of individual medical care plans which would be involved in providing the service. There would be no negotiation with

reference to these two principles—we would have to accept them or reject them as they stand.

These gentlemen also made it clear that they were opposed to indemnity insurance and would accept this type of contract only as a temporary expedient. They are committed to the principle of the service contract.

These requirements can be met, and met easily. But they cannot be met so long as our vision is limited by the boundaries of the small areas in which we live and practice medicine. The problem is one of national scope, and it cannot be solved by state and county medical societies acting independently. I can assure you that you will not even be listened to, much less dealt with, upon any such basis.

Neither one of these requirements can be met, however, without the necessary machinery at the national level of Blue Shield Plans. You know full well that it would be impossible for fifty-one separate Blue Shield Plans to get together around a table and agree upon a uniform contract. Even if this were possible in one case, you must remember that different groups may demand different degrees of coverage, and this painful process would have to be repeated each time we were approached by a national group. The time required to effect such agreements would defeat us. These prospective clients demand an answer within days—not months.

For these reasons, only a National Service Agency, controlled by all the participating Blue Shield Plans, can possibly meet this urgent need. My own concept of such an agency is this:

1. It would be controlled by a board of directors elected by the participating Blue Shield Plans.
2. It would underwrite medical care programs of national scope; and, in turn, would pass on to each local plan concerned the share of the business that lay within the area of that plan.
3. If any local plan desired to accept the entire risk of additional coverage offered in any contract, it would be free to do so. If, on the other hand, any local plan declined to carry the additional coverage demanded, the National Service Agency would carry the added risk, and pay the local plan for all such service rendered.
4. The National Service Agency would work only through local plans. It would write no contracts in any area covered by a plan that did not involve two or more plans, and it would offer no contract of itself except in areas not covered by any Blue Shield Plan.
5. The National Service Agency would have no control over any local plan other than to see that

agreements entered into with subscribers were carried out.

6. The existing organization of Associated Medical Care Plans would not be disturbed. The National Service Agency would be an underwriting organization, and not one of control.

As a physician, who is intensely interested in the future of medicine in this country, I cannot see the slightest danger in such a project. Each local Blue Shield Plan would preserve its present degree of autonomy, and the national agency would be one that served all the plans rather than one that controlled all the plans. And, don't forget one thing—it is either some such arrangement or be forced out of business. If we are not going to be in a position to serve these new millions of organized consumers of medical care, we had better announce that fact right now and liquidate our Blue Shield Plans. Sudden death is much preferable to a lingering, painful death; and slow death for us is certain—and maybe not so slow at that—unless we get in step with the rest of the country.

I mentioned earlier that straw men were being set up so that they could be knocked down. Perhaps the largest of these straw men is that this is just a scheme for Blue Cross to gain control of medical practice in this country. This is not only the largest of the straw men, it is also the most fragile. I work just as closely with the Blue Cross Commission as I do with the Blue Shield Commission. I have not seen the slightest evidence of any desire—much less, intent—on the part of the Blue Cross Commission to exert even the slightest control of the practice of medicine. The cry of "No Merger" has been raised against the two commissions. I have been instructed by the Joint Executive Committee of the two commissions to state that merger of Blue Cross and Blue Shield has never been considered. All that has ever been seriously proposed is a federation of the two groups for the single purpose of promoting the success of both. The leaders in Blue Cross believe, just as do the majority of leaders in Blue Shield, that we must effect enough cooperation between these two great organizations for us to offer prepaid medical and hospital care in one package. The public cannot understand why they should be forced to join two different organizations to protect themselves against the cost of illness—and, when you think of it, it is hard to explain. But joining hands solely for the purpose of offering prepaid health protection in one unit is a far cry from merging the two organizations under single control.

I beg of you not to be misled by any such vi-

cious propaganda. So long as I remain in this position I shall defend medical practice just as zealously as I uphold the principles of Blue Cross. If there were any real areas of conflict between these two organizations, I would certainly discover them at once; and I can find none.

You did me the great honor last year of inviting me to address you at Atlantic City. I spoke to you very frankly at that time, pointing out the dangers to American medicine from within. That the majority of you approved my remarks and believed in my complete devotion to our medical profession is indicated by the fact that you have again invited me. I doubly appreciate this present honor; and I am again forcibly reminded of my great responsibility to the medical profession. I shall not, in the slightest, shirk this responsibility nor shall I ever compromise with any obligation to American medicine.

But my heart grows heavy as I see the indifference of many physicians to the threat to freedom in medicine that is becoming more menacing each day and as I encounter the petty, selfish greed of a few physicians who had rather see the entire structure of American medicine wrecked than to concede one small personal advantage in the general interest.

If we get socialized medicine in this country, it will be organized medicine, and only organized medicine, that has brought this curse upon us. We, as physicians, will have only ourselves to blame. If I were among the group that wants socialized medicine in this country—if I were Channing Frothingham, or Ernst Boza, or Jack Peters, or Michael Davis, or Isidor Falk—I would not exhaust much energy in making a great personal effort—I would relax and let organized medicine do the job for me. All that is necessary to bring socialized medicine to this country within a very short time is for organized medicine to pursue the same course that it has pursued for the past ten years.

The demand for more comprehensive medical care and for an effective means of budgeting its costs has grown within ten years from a whisper to a roar. Our people will not be denied much longer. If the medical profession does not at once assume the leadership, if it does not at once cease its double talk and double dealing with the voluntary non-profit prepayment plans, and throw its influence squarely and honestly behind these plans, we are going to have compulsory government health insurance in this country within three years.

I give free medicine a lease on life of three years solely because other heavy financial commit-

ments of the government will preclude the assumption of the additional burden of compulsory health insurance. The Marshall Plan and the rearmament program will keep the government and the taxpayers strapped for the next few years. But, within three to five years—and I think it will be nearer three—either these measures to restore peace will have been successful or we shall again be in a war. I believe we shall have peace; and just as soon as the taxpayer is relieved from this terrific burden of his investment in peace, you may be sure the politicians will be ready to impose upon him the burden of a compulsory health insurance program—that is, unless by that time we have demonstrated that voluntary health insurance is a completely satisfactory answer to the problem. And I would emphasize further that, if we start right now, it will take at least two years to effect an organization that can do this job. We cannot afford to waste any more time in fruitless discussions that lead us nowhere. We must decide right now whether we are going to unite in this effort; and, if we are, we must cease all delaying and obstructive tactics.

Don't be pulled into a sense of security by such able studies on socialized medicine as have been made by the Brookings Institution, the National Industrial Conference Board, and other capable agencies such as these. Of course, every thinking person is convinced that socialized medicine would be a great mistake—a costly mistake both in money and in health. But this issue will not be decided by wisdom. It will be decided entirely by emotion. Like President Coolidge's preacher, who was "agin sin," everyone is against sickness and death. Only a small minority of our people can understand the dangers of socialized medicine—all they know is that they want everyone to have good medical care, and they are not capable of choosing between the various ways in which medical care can be better distributed. Only a "*fait accompli*" will convince them—and so we have only a short time in which to show them an accomplished fact.

It is useless for the medical profession to undertake the education of our people to the dangers of socialized medicine. Our public relations have been so miserable in the past few years that a majority of our people suspect us of having only a selfish, personal interest in this question. I honestly believe that the medical profession does more harm than good when it attempts to decry socialized medicine—our motives are too suspect.

Don't be misled with such absurdities as the assurance that the government cannot make you practice medicine if you do not want to. You

see what has happened in England. The members of the British Medical Association voted at first to have nothing to do with government medicine. The majority was heavy—80 per cent pledging themselves to remain outside the government plan. But, as the deadline for participation approached, British physicians by a small majority, voted to accept the government plan.

How long can you hold out in a strike against the government? How many of you could stick it a year with no income? And how many of you would stick it if you saw a minority group collecting all the gravy? You are trained in medicine. How many of you would be willing to forsake medicine and embark upon another career?

Don't let anyone fool you! If government medicine comes, 90 per cent of you will be forced by circumstances to accept it, no matter how bitter a pill it will be for you to swallow. So, the only way to prevent this tragedy is to stop it before it arrives—there is little you can do about it after it comes. The medical profession can prevent this tragedy, but only by positive action that will meet the reasonable demands of these large groups. Consistently negative action has brought us to this critical juncture, and has played directly into the hands of the enemies of free medicine. Time is running against us. We cannot longer delay.

This convention, which is about to open, promises to be the most important in the hundred years of existence of the American Medical Association. The great work of the past hundred years can be undone overnight by unwise action during this week. I beg of you to weigh carefully the issues that will be presented. I ask you to weigh them in the light of the events of the past few weeks. I am as certain as I am that I stand here that if this convention fails to encourage and support the expansion of the Blue Shield movement the death knell of free medicine in this country will have been sounded.

MISSISSIPPI VALLEY MEDICAL SOCIETY MEETING

The Thirteenth Annual Meeting, Mississippi Valley Medical Society, will be held at the Abraham-Lincoln Hotel, Springfield, Ill., Sept. 29, 30, Oct. 1, under the presidency of Dr. Willard O. Thompson, Professor of Medicine, University of Illinois.

NO REGISTRATION FEE will be charged and every ethical physician is cordially invited and urged to attend. The entire program and all exhibits will be held in the Abraham-Lincoln Hotel. A detailed program may be obtained from the Secretary, Harold Swanberg, M.D., 209-224 W.C.U. Bldg., Quincy, Ill.

STATE DEPARTMENT OF HEALTH



REPORT OF RECENT POLIOMYELITIS OUTBREAK IN HARRISON AND POTTAWATTAMIE COUNTIES

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During the month of May, 1948, a sharp rural outbreak of poliomyelitis occurred in Harrison and Pottawattamie Counties in western Iowa. At the request of The National Foundation for Infantile Paralysis, and with the cooperation of the Iowa State Department of Health, Dr. Walter L. Bierring, Commissioner, two visits were made at the site of outbreaks. These visits were made on May 28 and May 29 and June 2 and 3.

In the course of these visits the households of cases were visited; family histories were obtained, and extra-human specimens were collected for the attempt to detect poliomyelitis virus. Mr. Houser and Mr. Nelson, sanitary engineers, outlined a procedure of general rules for use in the community during the current outbreak. These rules were approved by Dr. Bierring and accepted with or without modification by the county medical societies.

Geographic Aspects of the Outbreak

In Harrison County the first reported case occurred in a farm family four miles south of the town of Mondamin (pop. 500). After a latent period of two weeks new cases began to appear in the scattered distribution characteristic of poliomyelitis. The remarkable distribution of cases in and beyond the town of this rural community offer a distinct challenge in epidemiologic investigation.

The first reported cases of poliomyelitis in Iowa during 1948 occurred in Sioux City. Thirteen cases of poliomyelitis occurred there during the period Jan. 5 to May 2, 1948. I am informed that untreated sewage from Sioux City is drained into the Missouri River. Sioux City is about 45 miles north of Mondamin.

It would appear, circumstantially at least, that poliomyelitis spread southward between Sioux City and Council Bluffs. At any rate reported cases occurred first in Sioux City, then in Mondamin, Magnolia, Honey Creek, Crescent and Council Bluffs.

Climatologic Aspects

The spring has been unusually dry; the amount of rainfall is far below normal. The river has not flooded the lowlands. Drainage ditches are dry. The water in creeks is low. Mosquitoes and flies have not been particularly abundant.

Water Supply

The water supply for the towns of Mondamin and Missouri Valley is obtained from driven wells. None of the towns uses river water for drinking. On farms water is obtained from driven wells, varying from 16 to 30 feet in depth.

Sewage Disposal

Only a few homes and the school in Mondamin are connected to a sewage conduit which empties into a drainage ditch a mile east of the town. The effluent from the consolidated school represents overflow from a septic tank. The remaining homes have pit privies.

In Missouri Valley the town (pop. 5,000) has a sewer system. The raw sewage flows untreated into the Willow River about 1½ miles south of the town. Gross contamination of the water in this river with excrement is evident. There are many flies. Birds, particularly swallows, fly up and down the course of the stream.

The privies on the premises of cases are of the pit type. The majority were in good condition, but flies had ready access to the pit.

Resume of Reported Cases in Humans

Up to May 28, 1948, there were 38 reported cases of poliomyelitis in Iowa. Twelve of these cases occurred in Woodbury County (Sioux City) previous to the appearance of cases in Harrison and Pottawattamie Counties. Nine cases occurred in Harrison County and 5 cases in Pottawattamie

*Assigned as epidemiologist by National Foundation for Infantile Paralysis, New York, N. Y.

County. It is evident that in this area of Western Iowa, for a distance of 100 miles along the Missouri River 26 of the 38 reported cases occurred thus far in 1948.

In a very sketchy effort to elucidate possible manners of spread of poliomyelitis in the population at risk, the following seems to me of importance.

1. *The probability of direct human spread.* The first recognized case appeared in an 8 year

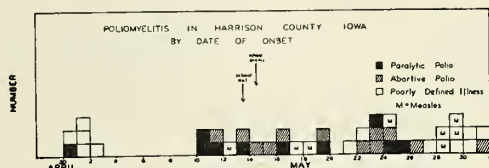


Fig. 1. Onset of poliomyelitis and measles among members of families in which poliomyelitis occurred. Probable abortive and less well defined illnesses are also listed.

old girl, whose onset was about May 1, 1948. All other members (6) of the family were ill with diarrhea, vomiting and headache at this time. This girl attended the second grade in the consolidated school in Mondamin. She rode to school on a bus, and she is the only child on that particular bus to develop poliomyelitis.

The second recognized case appeared in a farm house eight miles away on about May 10. At this time a number of cases, frank and abortive, began to appear in the community. These cases occurred among children 8 to 11 years of age. These children were in the fourth grade of the consolidated school of Mondamin. A brother of the first case, aged 10 years, sick about May 1, attended school and was in the fourth grade.

On May 14 school was dismissed for the summer months. On that day a school picnic was called; each family contributed a "covered dish" and to this picnic came many mothers and their children. At this time and during the next week new cases appeared in the community; there can be no doubt that poliomyelitis was present in some of the individuals attending the picnic. At any rate ten to twelve days later a second wave of illness with the appearance of frank poliomyelitis occurred. It is hard to tell obviously whether this secondary rise represents additional recruits seeded with virus at the picnic, although circumstantial evidence suggests this may be so. Following, May 31, the outbreak in this local area appears to have subsided. Measles and mumps were also prevalent in the community.

2. *Family illnesses.* Eleven families in and about the town of Mondamin in which poliomyelitis occurred were interviewed. In 8 of these families poliomyelitis occurred in a single mem-

ber, and a history of illness in other members could not be obtained. In 3 of these families several or all members of the household were ill within a few days of one another. These observations indicate to me on the basis of previous observations that poliomyelitis enters households as (1) a chance exposure of an individual beyond the household, or (2) intimate seeding of many members at a given time with poliomyelitis virus.

3. *Insects and spread of poliomyelitis.* There was no striking evidence in this area that flies or other insects were unusually more prevalent when the first illnesses appeared in the community. At the time of visit to the premises of reported cases on farms and in the towns green bottle flies and blow flies were seen. They were not numerous.

Houses were not well screened. Nevertheless, few flies were present in homes.

4. *Food, water, milk.* No direct evidence could be found to incriminate these consumable supplies. Nevertheless, the strong suspicion remains that at the school picnic, and particularly in explosive family outbreaks, virus may be eaten in contaminated foods.

Clinical Desiderata. There has been (June 4, 1948) one fatality among 29 cases. The patients in the hospital were not examined, but from information furnished by their physicians the majority of the cases are mild and only three have marked palsy of peripheral muscle groups.

There is no doubt that this outbreak is poliomyelitis.

General Recommendations. These were outlined by Mr. Paul Houser and Mr. M. O. Nelson, and approved by Dr. Walter L. Bierring. A copy of the recommendations is enclosed.

Talks: Two talks on poliomyelitis were given.

1. Town officers and physicians, Missouri Valley, Iowa, on May 29, 1948.

2. Harrison County Medical Society, Logan, Iowa, on June 3, 1948.

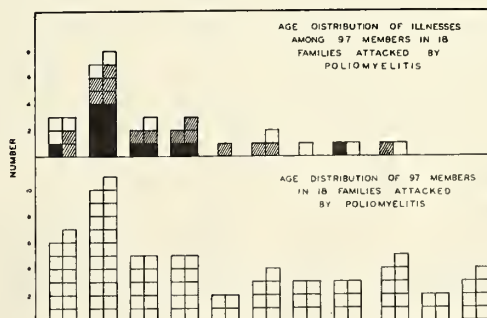


Fig. 2. Age distribution of individuals in eighteen families attacked compared with age distribution of illnesses occurring in these families during the month of May, 1948. Legend is the same as in Fig. 1.

Collection of Specimens

1. Potentially polluted water.
 - a. Lynn Lake, Mondamin.
 - b. Spooner Creek, Mondamin (outlet of school sewer).
 - c. Pigeon Creek, Crescent.
 - d. Willow River, Missouri Valley.
2. Birds (blackbirds, swallows) at premises of cases.
3. Fish (carp and bullheads) from Lynn Lake and Horseshoe Lake.
4. Frogs—from a pond adjacent to affected household.
5. Human stools—for purposes of establishing the strain of virus.

These materials were collected, transported on ice (or dry ice) to the laboratory. The water specimens have been subjected to centrifugation in the Sharples centrifuge, are stored in a dry ice box and will be tested for the presence of poliomyelitis virus.

There are several suggestive routes suggested from the data, and to this end the specimens tested were collected. This material will not be tested until September; nevertheless, the results, when at hand, will be forwarded promptly.

Acknowledgment should be made to Mr. M. O. Nelson, public health engineer, and to Miss Olive Johnson and Miss Ruth Graham, public health nurses, for very valuable assistance in contacting patients and in the collection of specimens. Without their aid as much as has been accomplished could not have been done.

AMERICAN COLLEGE OF SURGEONS MEETING

The thirty-fourth Clinical Congress of the American College of Surgeons will be held in Los Angeles, with headquarters at the Biltmore Hotel, from October 18 to 22, 1948. The program of scientific sessions on subjects in the fields of general surgery; eye, ear, nose and throat surgery; gynecology and obstetrics; urology; and orthopedic, thoracic, plastic, and neurologic surgery will be supplemented by operative clinics in hospitals in Los Angeles and vicinity by showings of operations by television and motion pictures, and by a four-day hospital standardization conference for hospital personnel, according to Dr. Irvin Abell of Louisville, Chairman of the Board of Regents of the College. There will also be extensive technical and scientific exhibits.

New officers who will be inaugurated at the opening evening session are Dr. Dallas B. Phemister, Chicago, president; Dr. Howard A. Patterson of New York, first vice president; and Dr. Carl H. McCaskey of Indianapolis, second vice president. The outgoing officers are Dr. Arthur W. Allen of Boston, president; Dr. Thomas E. Jones, first vice president; and Dr. Gordon B. New, Rochester, Minnesota, second vice president. The other officers of the College are Dr. Paul B. Magnuson of Washington, secretary; Dr. Bowman C. Crowell and Dr. Malcolm T. MacEachern of Chicago, associate directors; and Dr. H. Prather Saunders and Dr. Charles F. Branch, assistant directors. Dr. Phemister is treasurer.

At the Convocation which will be held on the final evening of the Clinical Congress, some 600 initiates will be received into fellowship. The American College of Surgeons, which was organized in 1913 to elevate the standards of surgery, now has a total fellowship of more than 15,000 surgeons.

MORBIDITY REPORT

Diseases	June '48	May '48	June '47	Most Cases reported from counties below:
Diphtheria	10	5	7	Clinton (6), others scattered
Scarlet Fever.....	57	123	54	Clinton, Dubuque, Polk, Washington
Typhoid Fever.....	3	0	9	Allamakee, Benton, Lee
Smallpox	0	0	0	
Measles	409	1,083	739	Boone, Buena Vista, Floyd, Linn
Whooping Cough....	19	52	187	Dubuque, Linn, Polk
Brucellosis	31	7	81	Buena Vista, Dubuque, others scattered
Chickenpox	186	420	279	Des Moines, Dubuque, Linn, Story
German Measles	1	1	23	Calhoun
Influenza	0	5	0	
Malaria	0	0	0	
Meningitis	4	11	3	Black Hawk, Dubuque (2), Scott
Mumps	191	488	35	Cedar, Dubuque, Linn
Pneumonia	9	12	11	Black Hawk (5), others scattered
Poliomyelitis	36	18	5	Cerro Gordo (1), Fremont (1), Harrison (20), Humboldt (1), O'Brien (1), Plymouth (1), Pottawattamie (9), Woodbury (2)
Tuberculosis	55	113	48	For the State
Gonorrhea	86	99	96	For the State
Syphilis	124	120	276	For the State

The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

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Earned Income and the Ability to Pay Tax

Recently there was published the results of an inquiring reporter in Des Moines in which the question was asked, "What profession do you think is the best paying?"* Four of the six people interviewed considered the medical profession to be foremost. This was followed a few days later by editorial comment pointing out that though this opinion is erroneous, it is the successful doctor rather than the business executive or the lawyer who is most closely in contact with the general public. This situation leaves the people unaware that other professions are better compensated for their work without experiencing the grueling hours put in by the physician.

Too, the general public is not aware of the hardship that the graduated surtax rate places upon professional men. It is interesting to note that the legal profession is making a concerted effort to adjust tax discriminations against lawyers. The Section of Corporation, Banking and Mercantile Law of the American Bar Association has offered legislative amendments to the internal revenue code for consideration to remedy inequities.

Despite academic difference of opinion concerning an appropriate definition of the term "ability to pay," that concept is now generally regarded as the fundament of justice in taxation. As the situation now exists, however, it subjects the professional man to so great a burden of taxation during his limited number of peak earning years

that he cannot plan for his inevitable lean years and eventual retirement. Because the treasury needs revenue at least once every twelve months, it does not follow that the taxpayer's ability to pay should be measured arbitrarily by reference to income received over any particular twelve-month period. The unfortunate lot of the professional or salaried taxpayer is the result of an unfair and discriminatory scheme of taxation, for under the present law, partners and individual proprietors may not be included in pension plans as may business executives.

The American Bar Association has proposed that these discriminations and injustices be rectified as soon as Congress can be persuaded to do so by the following changes in the tax law:

1. The adoption of an amendment to the existing pension trust provisions permitting partners and individual proprietors to formulate pension plans, the costs of which are deductible in computing their income taxes. This would remove the discrimination now existing as against sole proprietors and partners.

2. The adoption of a personal and individual retirement plan. Under such a plan every person with earned income (whether partner, self-employed, or employee) would be permitted to set aside some of his own income for his old age. This he would do by purchasing from current earned income a limited amount of special, non-negotiable government bonds, the cost of which would be excluded from his income in the year of purchase for tax purposes. The suggested limit of 15 per cent of earned income or \$10,000, whichever is less. In later life, when he cashes any of the bonds, the proceeds thereof become taxable as income in the year in which cashed.

Military Resident Training Program

Recently both the army and the navy have announced the expansion of their professional training programs for medical officers in the reserve and regular units of service.

The Army's Civilian Resident Training Program offers to selected graduates of medical schools approved by the American Medical Association, who have satisfactorily completed an acceptable internship, an opportunity to serve a residency of their choice in any civilian hospital approved by the American Medical Association, and at the same time be commissioned in the regular Army Medical Corps as a first lieutenant or captain, receiving the pay and allowance of that grade. Only 300 appointments are available.

From the financial standpoint, the program of

*Inquiring Reporter column, Des Moines Register, June 30, 1948.

either service branch offers an attractive chance for a young medical officer to obtain a residency. The pay per month of a first lieutenant is \$200 and the pay of a captain is \$230, plus a 5 per cent increase in each of these for each three years of previous military service. Allowances provide \$75 rental and \$42 subsistence per month with dependents or \$60 rental and \$21 subsistence per month without dependents. In addition to these amounts is the \$100 per month authorized to regular army medical officers. The economic aspect is so planned that a steadily increasing income is provided during the necessary years of training.

Professionally, the program is designed to provide doctors with the ideal combination of teaching, research and patient contact opportunities.

A year of service on active duty with the Army Medical Department is required for each year of training received. It is the policy to provide such assignments for active duty as will enable each to consolidate his training into actual experience. The physician is followed through this period of active duty to determine whether he is worth further investment as to additional training and assignments of large responsibility.

Likewise, in the navy, graduates of A. M. A. approved medical schools who have been accepted for internship by a hospital approved for such training may be commissioned as lieutenants (junior grade) and permitted to carry out their civilian intern training. They too will receive all the pay and allowance of the rank while so serving, and after completing their internships, they must remain on active duty for a period of one year. If they meet the requirements, they will be given every encouragement to transfer to the regular navy, and upon transfer, become eligible for residency training on a competitive basis with other medical officers of the regular navy.

Resident physicians and physicians accepted for residencies in civilian hospitals approved for residency training, are eligible for commission in the regular navy. Those so commissioned will be assigned to duty (with full pay and allowances) in the hospital in which they are already a resident or in which they have been accepted for residency training. Every attempt will be made to permit such residents holding commissions in the regular navy to complete their training in event of an emergency.

The navy at the present time has four hundred approved residencies and fellowships in naval and civilian hospitals and institutions. One hundred of these will be made available for civilian physicians accepting a commission in the navy and the remainder will be reserved for continuing the

training program as presently organized for medical officers of the regular navy. As in the army, the obligated service following graduate medical training is one year for each year of training received.

Flies and Poliomyelitis

The Communicable Disease Center, of the United States Public Health Service in Atlanta, Ga., recently pointed out that efforts to abate poliomyelitis epidemics by intensive fly control have given little promise of success or of proving or disproving the proposition that flies are important means of transmitting the disease. For the present it does not appear justifiable for the Public Health Service or other public health agencies to engage in emergency fly control activities during epidemics of poliomyelitis to learn more about the role of flies in the dissemination of this disease. More exact scientific investigations on this point are necessary.

Although the Public Health Service does not discourage fly control when such activity can be carried out on a continuing and rational basis, the spectacular work by airplane and ground machines that has been carried on during emergencies may give an unjustified feeling of security and divert attention from other possible sources of poliomyelitis spread.

As a result of experimental work it has been learned that poliomyelitis virus can be found for considerable periods of time in the stools of infected persons and in sewage containing such stools. The virus has been isolated repeatedly from flies (houseflies and blowflies) during epidemics, and the infection of experimental animals by the ingestion of materials containing poliomyelitis virus has been demonstrated on numerous occasions. It has been shown once, although not yet confirmed, that flies in the home of a person with poliomyelitis became contaminated naturally with poliomyelitis virus and conveyed enough of it to food, which had no other contact with virus, so that poliomyelitis-free chimpanzees developed infections shortly after eating contaminated food.

This information indicates that flies can transmit poliomyelitis. It does not show how frequently this happens; it does not exclude other means of transmission; nor does it indicate how important fly transmission is in comparison with other means.

Walking Load of Nurses

Recently a study of the walking load of nurses in service and in training was made by Roland

Rooks, Ph.D., and M. E. Barnes, M.D., of the Department of Hygiene and Preventive Medicine, State University of Iowa, Iowa City.

A new pedometer of simple construction was devised, the instrument consisting essentially of a cyclometer fastened to an adjustable waist belt. The unit of pedometric change was calculated for each individual, thus making it possible for the walking distance of that person to be measured accurately by means of the instrument. All readings were taken on nurses in training or working in a general hospital of approximately 900 bed capacity.

In the hospital surveyed, it was found that first year nurses walked a mean distance of 6.02 miles daily in meeting their classes. A survey of eleven different hospital services showed a per patient walking load of 0.48 mile with a mean of 5.46 miles walked daily by the nurse in carrying out necessary nursing care. Isolation ward workers ranked lowest with 3.9 and diet kitchen highest with 7.5 miles walked daily.) The minimum and maximum individual walking loads for nursing care were found to range from 2.4 to 9.4 miles daily.

It has been suggested as a result of this survey that for greater efficiency of nursing service the hospital facilities and class schedules be arranged so as to reduce the walking load to a minimum.

MID-YEAR REPORT OF H.S.I.I.

Blue Cross enrollment in the area served by Hospital Service, Inc., of Iowa, as of June 30, 1948, was 451,956, of which 45,149 also had Blue Shield, as compared with 420,646, of which 39,924 had Blue Shield on January 1, 1948.

Blue Cross allowances for hospital care of its members for the first six months of 1948 were \$2,072,259.94 covering 31,887 cases. Hospital admissions per 1,000 members had risen from 137 in 1947 to 143 in the first six months of 1948.

As planned early this year enrollment regulations have been strengthened, groups definitely classified as indicated by surveys on past utilization, and a rate increase made effective beginning June 1, as billings come up.

The new Blue Cross contracts are being mailed. There is a new two-person contract available in Blue Cross which is the same as the Blue Shield Plan has had from the first. This contract covers a husband and wife or parent and only child, without obstetric care.

There is very little change in the services offered. Room allowances are increased from \$4.75 to \$5 a day. Workmens' compensation cases are more carefully defined as are admissions for diagnostic work. The Blue Cross contract at no time planned to cover admissions to the hospital primarily for diagnostic work. A paragraph has been inserted in the con-

tract which gives the doctors and the hospitals a definite contractual statement on which to base decisions of eligibility for Blue Cross benefits on these cases.

Waiting periods for "existing conditions" were difficult to administer and the contract for new subscribers sets out ten specific conditions on which there will be a nine months waiting period, namely, care of tonsils and adenoids, varicose veins, hernia, hemorrhoids, asthma, alcoholism, stomach or duodenal ulcers (except acute perforation and hemorrhage) nervous and mental disorders, tuberculosis and tumors. The same waiting period of nine months will be continued on obstetric care.

Another change is "no obstetric care" on new contracts in noncommon employer groups. However, the County Health Improvement Associations have been given the opportunity to become eligible for the same coverage as common employer groups when the rural enrollment reaches the same enrollment percentage required in industrial groups of comparable size.

Present subscribers now eligible for obstetric service will not lose this benefit in the changeover to the new certificates.

AMERICAN CONGRESS OF PHYSICAL MEDICINE MEETING

The American Congress of Physical Medicine will hold its twenty-sixth annual scientific and clinical session September 7, 8, 9, 10 and 11, inclusive, at the Hotel Statler, Washington, D. C. Scientific and clinical sessions will be given the days of September 7, 8, 9, 10 and 11. All sessions will be open to members of the medical profession in good standing with the American Medical Association. In addition to the scientific sessions, the annual instruction courses will be held September 7, 8, 9 and 10.

These courses will be offered in two groups. One set of ten lectures will be based primarily on physics and physiology and attendance will be limited to physicians. One set of ten lectures will be more general in character and will be open to physicians as well as to physical therapists. The physical therapists must be registered with the American Registry of Physical Therapy Technicians.

Full information may be obtained by writing to the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

NOTICE

Physicians are invited to indicate their desire to receive books for review through the JOURNAL, specifying the field of interest or particular book wanted. Upon request the JOURNAL staff will write for any new medical book which has not already been received. Address your requests to the JOURNAL, 505 Bankers Trust Building, Des Moines 9, Iowa.

SPEAKERS BUREAU

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JOHN I. MARKER, M.D., Davenport

TOM D. THROCKMORTON, M.D., Des Moines

HORACE M. KORN, M.D., Dubuque

DEVoe O. BOVENMYER, M.D., Ottumwa

ROBERT N. LARIMER, M.D., Sioux City

POSTGRADUATE COURSES

The Speakers Bureau is now planning its fall program of service to the county societies. First and foremost are the postgraduate courses. They are available upon request and are the biggest contribution which the Bureau can make in its educational program. Each postgraduate course offers a well rounded series of lectures covering new developments in medicine and surgery. Each is designed to bring within driving distance of the doctors in that particular community the latest advances in medicine. Each provides an opportunity for the doctor to keep abreast of medical progress without having to take time from his practice to go to some medical center for study.

The Bureau offers its services in arranging these postgraduate courses by suggesting possible subjects for discussion, obtaining outstanding speakers, and publicizing the course to all doctors in the county and surrounding area. The expense incurred is the responsibility of the county medical society requesting the course, but the registration fees received from participating physicians usually cover the amount. There are, of course, other types of educational programs for which the money is provided by federal agencies. The cancer institutes mentioned below fall into this category. The postgraduate course as such, however, is not a subsidized affair.

CANCER INSTITUTES

Dr. Edmund G. Zimmerer, Director of the Cancer Division of the State Department of Health, Des Moines, has announced that federal funds have been made available to that Division for the purpose of providing cancer institutes in seven centers throughout Iowa. In cooperation, the Bureau is assisting with the planning, arrangement and announcement of this cancer program. An effort is being made to include communities which we were unable to accommodate during a similar program last year. Thus far, a cancer institute has been requested by Scott County to be held at Davenport, Montgomery County at Red Oak, Black Hawk County at Waterloo, and O'Brien County at Sheldon. All physicians from the surrounding areas are invited to attend.

Each cancer institute will be a one day meeting consisting of two or three lectures in the afternoon and two talks in the evening following a complimentary dinner provided by the Iowa Division of the

American Cancer Society. The discussions will emphasize early diagnosis and recognition of the more common types of cancer. All of the cancer institutes in this series are provided without cost to the county society sponsoring it or to the individual doctor who attends. It is hoped that every physician will avail himself of the opportunity to hear these excellent discussions by well known experts.

County medical societies desiring postgraduate courses or cancer institutes this fall are asked to contact the Speakers Bureau at the earliest possible time.

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Wednesday at 2:45 p.m.

WSUI—Thursday at 11:45 a.m.

- Aug. 4-5 Poliomyelitis—Charles J. Baker, M.D., Fort Dodge
- Aug. 11-12 Nutrition in Diabetes—J. E. McFarland, M.D., Ames
- Aug. 18-19 Nutrition in Pregnancy—Cecil W. Seibert, M.D., Waterloo
- Aug. 25-26 Nutrition in Heart Disease—George Mountain, M.D., Des Moines

CHICAGO MEDICAL SOCIETY POSTGRADUATE COURSES

The Chicago Medical Society is sponsoring two postgraduate courses in September to be given in Thorne Hall on the campus of Northwestern University Medical School, Lake Shore Drive and Superior Street, Chicago.

The first course in Hematology and Neurology will be given the week of September 13-18, 1948. The second course in Cardiovascular and Respiratory Diseases will be offered the week of September 20-25.

Distinguished faculties of fifty-eight from all over the United States will give the courses. There will be lectures, round tables and intermissions which will give those taking the courses opportunity to meet and talk with the faculty.

Both courses are limited to 100 and are open to physicians in good standing in their local medical societies. For copy of program and application, write Doctor Willard O. Thompson, Chairman, Committee on Postgraduate Medical Education, Chicago Medical Society, 30 North Michigan Ave., Chicago 2.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

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President-elect—MRS. CHARLES A. NICOLL, Panora

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Treasurer—MRS. M. A. ROYAL, 1138 Thirty-seventh Street, Des Moines 11

NATIONAL CONVENTION HIGHLIGHTS

Reported by the President

It was my privilege and pleasure to attend the Twenty-fifth Annual Meeting of the Woman's Auxiliary to the American Medical Association which convened June 22 at the Hotel LaSalle, Chicago. A most cordial invitation was extended by the convention chairman, Mrs. Rollo K. Packard, to all women who were Auxiliary members or guests of physicians attending the A.M.A. convention, to attend the tea honoring the president, Mrs. Eustace A. Allen, and president-elect, Mrs. Luther H. Kice, and to enjoy the several tours which had been planned. The tea was most enjoyable with delicious food, beautiful harp music, and lovely flowers, affording us an opportunity to greet old friends and make new ones.

With Mrs. Allen in the chair, the agenda of the convention was considered in an efficient manner and with the utmost dispatch. Without bringing the highlights of each report, I shall attempt to mention the outstanding activities and most stimulating thoughts gleaned from the reports. The first idea that was driven into our consciousness was the fact that the *Auxiliary has grown up*; it is becoming an integral part of the work of the A.M.A. and has assumed a place of importance by participating in health conferences on a national level. Mrs. Allen attended the National Rural Health meetings; Mrs. Kice represented the Auxiliary at several National Health meetings, at the National Conference on Family Life at the invitation of President Truman, and also prepared script with Dr. Bortz, past president of the A.M.A., for use by the National Broadcasting Company. It was stimulating to learn that there are now Auxiliaries in forty-six states and the territory of Hawaii. In our north central region, Mrs. Leo K. Schaefer, chairman of organization, reported fifty-one new Auxiliaries with an increase of 2,850 members for the year. As members of our county and state auxiliaries, we are members of a great, active organization of physicians' wives which is now pushing the 50,000 mark.

One of the most outstanding addresses was that given by Dr. Morris Fishbein at the luncheon on Tuesday. That you may enjoy his challenging thoughts, I asked Mrs. James D. Hennessy of Council Bluffs, one of our Iowa delegates who attended every meeting, to make memoranda of his address. Her excellent notes follow:

"One of the convention's most interesting speakers and one of the Woman's Auxiliary's staunchest supporters is Dr. Morris Fishbein. He pointed out that American Medicine today is 'carrying the banner for all the world.' At present, there is a definite trend away from bureaucracy. The latest compulsory medical plan has been shelved temporarily, but that doesn't mean that we can claim our success as permanent. The fight must go on until our entire country is firmly convinced of the multiple advantages of a voluntary plan over the dangerous compulsory plans.

"The membership of the Woman's Auxiliary stands at an all-time high, and the potential usefulness of the Auxiliary is constantly increasing. Constantly the A.M.A. is creating new agencies, and the Woman's Auxiliary will have to expand in order to keep step. The accomplishments of our national organization are important only as a result of the work of each state individually; that of the state rests with each cooperative county Auxiliary. Each small job done well by an individual member builds our entire organization into something fine and constructive. Dr. Fishbein declared that the Woman's Auxiliary has 'outgrown its swaddling clothes and has come to a place of big affairs.'"

Each state president gave a concise and challenging report of her year of work. Among the interests and endeavors are: better state organization, health education by means of *Hygeia* and health day programs, nurse recruitment, assistance with local hospital needs including blood banks and sewing, nurse education loan funds, active part in state cancer programs, Red Cross work, and work for the crippled and handicapped.

At the close of the convention there were round table discussions conducted by the various committee chairmen. The many ideas gleaned from them will come to you, in part, through your state chairmen. Don't neglect to read the Auxiliary News.

All of you should know that national dues were raised from 25 cents to \$1.00. This increase was anticipated and acted upon at the Iowa state meeting in April. Many other states had done the same. Dr. Fishbein announced plans for a new publication which he hopes to finance by means of advertising, and which will be distributed free to all Auxiliary members. More money is needed for the Auxiliary's rapidly expanding program.

I trust that these notes may prove an inspiration to you who were not present. On Wednesday of the convention, Iowa had a table reserved where Mrs. Fred Moore of Des Moines, Mrs. Mulrow of Cedar Rapids, Mrs. Hennessy of Council Bluffs, Mrs. Dawson of Fort Dodge, Mrs. Brinker of Jefferson and I had the pleasure of dining together. Mrs. Reeder of Sioux City was with us on Tuesday.

Mrs. Allan G. Felter, President

ANNUAL REPORT OF PUBLICATIONS COMMITTEE, 1947-48

The chairman attended all board meetings and the public relations meeting at Hotel Fort Des Moines in October and a special conference with the president in August. She cooperated with the program committee on "What Every Doctor's Wife Should Know About Socialized Medicine" and edited the "Woman's Auxiliary News" every month, stressing county news, every phase of the state program, and using material from *THE BULLETIN* and *Hygeia*.

The chairman prepared the resolutions for the annual state meeting and did writing whenever it was required for the State Auxiliary.

Recommendations:

1. That the Auxiliary bind the existing copies of "The Woman's Auxiliary News."
2. That a fourth copy of all annual reports be prepared for the Chairman of Publications.
3. That all material intended for publication be submitted not later than the twelfth of each month in typewritten form.
4. That both names and addresses of members wishing to receive the "Woman's Auxiliary News" be submitted to the state office.

Mrs. K. M. Chapler, Publications Chairman

ANNUAL REPORT OF PUBLIC RELATIONS

Each doctor's wife is a public relations department of the Medical Auxiliary. It is she who stands between the doctor and the public. At the beginning of the year, we suggested a county health day sponsored by the Auxiliary. If there is no Auxiliary in your county, it would be well to be guided by Mrs. Wahlquist, our National Public Relations Chairman, who says: "The wife of the physician in a smaller city or town is practically an individual auxiliary in her own right. It would be impossible for her to set up such a program alone, but let her be the spark to start similar endeavor in a church group or Federated Club."

On a state level, we have cooperated with the district cancer meetings set up for the doctors by holding at the same time an Auxiliary meeting. Mr. E. L. C. White discussed with the members how they might extend the educational program of the cancer committee. These were held in Fort Dodge, Dubuque, Des Moines, Webster City and Ottumwa. The Auxiliary participated in the Health forum held in Mason City. We attended the meeting of the

public relations committee of the Iowa State Medical Society and participated in the discussion.

"The control of community health problems should be kept in the medical profession. Because the physician, through his training, should be the leader in all community health matters, his wife and Auxiliary member should be at his side, helping to make people health-conscious and originating ways to educate the laity."

Mrs. C. H. Mitchell,
Chairman, Public Relations

ANNUAL REPORT OF BULLETIN COMMITTEE

In response to a letter sent to all county presidents, asking that they appoint a county Bulletin chairman, the following names were received:

Mrs. C. A. Nicoll, Dallas-Guthrie County.

Mrs. A. J. Gantz, Adair County.

Mrs. Fred L. Knowles, Webster County.

We have had forty-four subscriptions recorded during the year. However, sixteen of these expired in March. Cards were sent to each of these subscribers but to date just five have responded. This leaves only thirty-three active subscriptions to report at this time.

No doubt many of those which have expired will be renewed during the meeting.

Mrs. M. J. Moes, Chairman

ANNUAL REPORT OF HYGEIA COMMITTEE

As state *Hygeia* chairman, I have attended all the Executive Board meetings of the past year. I have also acted as chairman of our county *Hygeia* committee.

Hygeia supplies provided by the A.M.A. were used in the booth at the Iowa State Fair. Special rates for doctors, dentists and Auxiliary members were stressed in an article in the October issue of "The Woman's Auxiliary News."

In December letters were sent out to all Auxiliary presidents telling the value of *Hygeia* as found in the *Hygeia* Handbook. There is no profit motive in the distribution of *Hygeia*, but rather the Auxiliary performs a distinct aspect of public welfare in promoting subscriptions. The doctor's reception room is the logical place to glean more information on general health instruction.

A number of subscriptions were given as Christmas gifts and as gifts to mothers of new babies.

In February a letter was sent to all Auxiliaries asking for a report of the number of subscriptions taken in each county. An addressed postcard was enclosed to facilitate a reply. The following reports were returned to me. I am sure there is a number of other subscriptions which have not been reported and possibly many renewals. The county and state receive credit if they are mentioned when subscribing or renewing. Three year subscriptions are given credit the year they are sent in, and we receive "points" on these but not credit in each yearly report.

County totals are as follows:

Butler County, 7.

Dallas-Guthrie, 47.

Dubuque, 34.

Greene, 2.

Madison, 11.

Montgomery, 2 (1 three year and 1 one year).

Polk, 43.

Van Buren, 1 three year.

Webster, not able to report.

Woodbury, 8.

I should like to thank Miss McCord and her office staff for the cooperation and help given in getting out many of the letters.

Mrs. John F. Veltman, Hygeia Chairman

BUTLER COUNTY AUXILIARY

The Butler County Auxiliary meets at the same time as the doctors—the second Monday of each month except December, January and February. Our meetings are preceded by a 6:30 p.m. dinner. We have nine paid members with an average attendance of six.

We gave \$1 to the T.B. fund, \$1 to the cancer fund, one bushel of apples to the county home, and \$5 to the Nurses' Loan Fund. There were eight subscriptions to *Hygeia*.

Our programs have been interesting and educational. Subjects were: April, Cancer; May, Physically Handicapped; June, Ringworm of the Scalp and Centennial of A.M.A.; August, The Handicapped; September, Girls Taking Nurses Training, Curare Comes of Age; November, Cosmetics.

Mrs. H. G. MacLeod

DALLAS-GUTHRIE AUXILIARY

The Woman's Auxiliary to the Dallas-Guthrie Medical Society meets quarterly each year—on the third Thursday in January, April, July and October. The members have luncheon with the doctors preceding their meeting. This social hour is always enjoyed and helps to promote friendly relationships among the doctors and their wives. The Auxiliary has twenty-eight members, which is the same as of last year, and the average attendance at meetings is fifteen members.

The following projects were emphasized during the year:

1. Nurse recruitment. (We raised for the Nurses' Loan Fund \$20.50 and the Medical Society gave \$25.)
2. Active participation in the county chapter of the American Cancer Society.
3. Increase the membership in our Auxiliary.
4. Increase subscriptions to *Hygeia* and the BULLETIN.

5. Hold social functions.

One dinner and bridge party was held in February of 1947. Another party was arranged for in August but was cancelled because so many members were away from home at the time.

Mrs. Fred Moore, state president of the Woman's Auxiliary, was a guest at our luncheon and meeting in July.

Four of our members have served as chairmen of the State Auxiliary Committees or in some other office. Several are county chairmen in some capacity or other, such as county chairman of a Federated Woman's Club, Iowa Crippled Children's Society, American Cancer Society, etc.

A survey was made and results showed that many of the doctors' wives are serving in about four organizations. Their activities cover a wide range of community projects.

Mrs. Howard Smith, President

GREENE COUNTY AUXILIARY

Eligible for membership, 20.

Membership, 19.

Auxiliary meetings: Six times per year with average attendance of twelve.

All members participate in drives for funds which have to do with public health and extend Auxiliary objectives through the many other organizations of which they are members.

A majority of the members subscribe to *Hygeia*.

Nine dollars and fifty cents was subscribed to the Nurses' Loan Fund, and the programs on cancer and work for the handicapped were supported.

All meetings are dinner meetings with the doctors, and at one meeting nurses from the hospital were invited guests. There were sixty guests present.

A survey revealed that eighteen high school girls in the county have enrolled or plan to enroll for nurses' training next year, and several undergraduates plan to be nurses' assistants in hospitals this summer. We distributed folders for parents and prospective nurses in training to all high schools in the county. We made a survey of handicapped children and sent Christmas cards to thirteen of these.

Mrs. R. E. Parry, President

MADISON COUNTY AUXILIARY

We have six members, which is 100 per cent, having lost one member who moved out of the county. We held two meetings during the year with five members present at each meeting.

We discussed the projects of the State Auxiliary and agreed to help in every way possible. A social time was held after each meeting.

Our members have helped with the nurse recruitment program. The State University sent two nurses who presented two sound pictures and talked to the junior and senior girls. Individual conferences were held after the lecture. Our president distributed posters and leaflets, "Who, Me?" and "We're So Glad Our Daughter Is Going to Be a Nurse" to all doctors' offices in the county. We sent a total of \$6, or \$1 per member, to the Nurses' Loan Fund.

All of the members helped through the various clubs in sharing cancer programs and in distributing "New Horizons." Some attended a special pro-

gram for handicapped children and bought Easter seals. We helped in the poliomyelitis and tuberculosis fund campaigns.

The president of our Auxiliary is chairman for Madison county of the Cancer Society. She gave three talks on the cancer program and also enlisted the help of all the doctors in arranging speaking engagements at approximately twelve different meetings.

We sent eleven subscriptions to *Hygeia*.

Mrs. John F. Veltman, President

MARSHALL COUNTY AUXILIARY

The Woman's Auxiliary of the Marshall County Medical Society met for a dinner June 1. The progress of the Nurse Recruitment program was discussed. Thirty near-by schools have been contacted by letter, with offers of personal interviews if desired, and radio spot announcements are being used to explain the scholarship program now offered.

A constitution was read and adopted. The following committee chairmen were named: legislative, Mrs. Louis F. Talley; program, Mrs. A. J. Schroeder; public relations, Mrs. Edson C. Knight; publications, Mrs. Grove Harris; social, Mrs. Willard Marble; phone, Mrs. A. R. Lynn.

The group has adjourned for the summer. The meetings will be resumed in the fall at the time of the Marshall County Medical Society meetings.

Mrs. Harold E. Sauer, Secretary

MONTGOMERY COUNTY AUXILIARY

Montgomery County has a 100 per cent membership of fourteen active members—unchanged since last year.

The Auxiliary meets two times each month. Attendance is excellent. On the second Thursday we meet with the Medical Society for dinner and, following the medical meeting, for a social evening. On the second Tuesday we meet at the hospital where we sew, mend or fold sponges, as the situation demands. The Auxiliary, in the past, has acted as hostesses for the hospital on various occasions—such as Opening Day, Hospital Day and for the Mother and Babe teas.

By maintaining an information booth and writing applications for insurance, we have actively supported the Blue Cross program during the drive in this community.

All members are active in some type of civic work in their own community. I feel that I can report that either the Auxiliary or the Medical Society is represented on every committee or board important to us as an organization.

By unanimous vote, we are a social organization—and while we talk *Hygeia*, we have had no active committee. The doctors subscribe to *Hygeia* when they send their A.M.A. dues, and it is placed in the offices of all the doctors and dentists.

Mrs. Fred Hansen will be a capable chairman of the Nurse Recruitment Committee, which is just

getting underway. We hope to be permitted to present the program to the girls of the graduating class.

We have contributed \$13 to the state Student Nurses' Loan Fund.

Imogene Bastron

WAPELLO COUNTY AUXILIARY

Retiring Officers: President, Mrs. Wilson Wolfe; vice president, Mrs. E. B. Hoeven; secretary, Mrs. C. L. Worley; treasurer, Mrs. S. F. Singer.

Officers-Elect: President, Mrs. E. B. Howell; vice president, Mrs. Dennis Emanuel; secretary, Mrs. G. C. Moore; treasurer, Mrs. S. F. Singer.

Membership: There are thirty-eight doctors' wives and widows eligible for membership in our Auxiliary. We have thirty-eight members.

For the past year our meetings have consisted of a picnic for both the doctors and wives and a winter luncheon. In April we held a cooperative dinner on the same night that the doctors were having their county meeting. We plan to hold these each month this coming year. Our attendance average runs from 50 to 75 per cent.

One of our members is Wapello County chairman of the American Cancer Society and is also active in the work of the Wapello County Public Health Nursing Service and the Visiting Nurses' Association. We now have one public nurse and one visiting nurse and have hopes for more. Several of our younger members are active in the Service League, an organization that is very interested and instrumental in the establishing of opportunity rooms for handicapped children. One such room has already been established through the efforts of this group.

At our last meeting a discussion was held as to the advisability of our group sponsoring and assisting in any way the public health nursing service. Our officers plan to bring more word of this from the state meeting.

Our Auxiliary was organized one year ago, or rather reorganized, on a trial basis. Our year's trial has ended and it seems to be the wish of the group to continue, so it is the hope of the officers that we can now endeavor to become more active. Our group is active, as individuals, in most of the organizations in our community, so is well represented in all fields.

We have kept the local press informed of our activities, and have endeavored to report to the state chairman the same.

Mrs. Wilson Wolfe, President

WEBSTER COUNTY AUXILIARY

There are forty-one doctors' wives eligible for membership in the county. In 1946 there were seventeen members; this year there are thirty-six, a gain of nineteen members.

We had four Auxiliary meetings in the last year with an average attendance of twenty-two business meetings, one social meeting, and one with an outside speaker.

We have ten members who are active workers on

health committees in other organizations: Parent-Teachers, Girl Scouts, American Legion, Webster County Tuberculosis Association, Community Nursing Board, Council of Social Planning, and Webster County Cancer Society.

There are six members subscribing to THE BULLETIN.

The nurse recruitment committee is active, at the present time contacting high school and junior girls relative to nursing as a career. We contributed also to the Student Nurses' Loan Fund. All of our meetings have been reported to the local press.

Mrs. M. W. Burleson, President

WOODBURY COUNTY AUXILIARY

Our Auxiliary holds four regular meetings per year. At our first meeting, a tea in the home of Mrs. R. H. McBride, the general plans for the year were discussed. A musical program followed the business meeting.

Our second meeting, a dinner with our husbands, was held at the Sioux City Club. We were proud to have Dr. J. E. Reeder as our guest of honor. He gave a very instructive talk on "Medical Legislation," following which Dr. A. C. Starry entertained us with pictures of the Starry "Travel Year."

Our Christmas luncheon was held in the corn room of the Martin Hotel. A musical program followed business. Our Christmas donation was sent to the Goodfellows.

In January we entertained the wives of the members of the Sioux Valley Medical Society at a luncheon at the Sioux City Club. Over eighty ladies attended, forty of whom were out-of-town guests. Mr. E. L. C. White, cancer director, gave us an informative talk on cancer.

Our final meeting was a tea in the home of Mrs. H. I. Down. Following the business meeting, at which new officers were elected, Miss Marrietta, county secretary for work with the handicapped, talked about her work. This particular talk was greatly appreciated since we have made our special project outlet sales for the work of the handicapped. We have had two such sales this year and plan another for late spring.

In addition to our special project, we have endeavored to cooperate with all state objectives. We have contributed \$15.60 to the Nurses' Loan Fund and now have a chairman for the nurse recruitment program. We have ascertained that a number of our girls from senior high schools in the county plan to go into nursing. We had one program on cancer and take an active part in all city health drives. We have twenty-four *Hygeia* subscriptions and four for THE BULLETIN.

One of our great gains this year has been in membership. Last year we had forty-eight members; this year, one hundred and four. We owe this increase to our county medical society which now pays the dues of the wife of every doctor who is a member of the Medical Society. Our attendance averages forty-two.

Because of the splendid cooperation of our members and the strong backing of our Medical Society, we have closed a fruitful and happy year.

Mrs. H. I. Down, President

WORTH COUNTY AUXILIARY

Worth County Auxiliary has a 100 per cent membership. We meet at the same time as our husbands and after business meetings have our social hour. We belong to most of the organizations in the county and in that way take Auxiliary health programs to the members. We have participated in drives for the Red Cross, cancer and tuberculosis. At our last meeting we re-elected all old officers and gave \$5 to the Nurses' Loan Fund.

Mrs. S. S. Westly, President

PRESCHOOL HEALTH EXAMINATIONS

The season is at hand when responsible parents are preparing their five year old children for that very important period of elementary school education. The entire community, as well as the individual parents, has a stake in each new class of kindergartners. The health of each child and of the group as a whole is a tremendous factor in how well our next and future generations of business, civic and national leaders are trained for their increasing responsibilities.

Parents of preschool children are asked to take their children to their family physicians for complete physical examinations and protective treatment against preventable diseases. The child should be weighed, measured, an estimate of nutrition determined and any diet and behavior habits thoroughly discussed. The examination should include an analysis of the urine and a determination of vision and hearing. The child should be vaccinated against smallpox and immunized against diphtheria, whooping cough and tetanus if he has not already received these preventive treatments.

The Committee on Child Health and Welfare recommends the use of three injections of combined serum for diphtheria, whooping cough and tetanus before the child is one year old; and the administration of "booster shots" at the kindergarten age and upon entering high school. One injection does not give adequate protection. Smallpox vaccination should be done in the first year and repeated every seven years or whenever an epidemic of smallpox occurs in the community.

The doctor should assist the parent in obtaining correction of any remedial defects in plenty of time before school opens to permit complete recuperation. The percentage of Des Moines kindergarten children protected against smallpox and diphtheria has been on the decline the last two years. Many schools could not now prevent an epidemic should either disease become prevalent. The profession can give leadership in this phase of preventive medicine; and help many children on their way to more enjoyable and profitable school years by determining and correcting defects.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

THE ACUTE BACTERIAL DISEASES—Their Diagnosis and Treatment—By Harry F. Dowling, M.D., F.A.C.P., Clinical Professor of Medicine, George Washington University; Chief, George Washington Medical Division, Gallinger Municipal Hospital; with the collaboration of LEWIS K. SWEET, M.D., Chief Medical Officer in Pediatrics and Infectious Diseases, Gallinger Municipal Hospital; Adjunct Clinical Professor of Pediatrics, George Washington and Georgetown Universities; and HAROLD L. HIRSH, M.D., Assistant Professor of Medicine, Georgetown University; Director of the Bacteriology and Immunology Laboratory, Georgetown University Hospital. W. B. Saunders Company, Philadelphia, 1948. Price, \$6.50.

THE BATTLE OF THE CONSCIENCE—A Psychiatric Study of the Inner Working of the Conscience—By Edmund Bergler, M.D., Washington Institute of Medicine, Washington, D. C., 1948. Price, \$3.75.

A HISTORY OF THE HEART AND THE CIRCULATION—By Fredrick A. Willius, M.D., M.S., in Med., Senior Consultant in Cardiology, Mayo Clinic; Professor of Medicine, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota; and THOMAS J. DRY, M.D., Ch.B. in Med., Consultant, Section on Cardiology, Mayo Clinic; Associate Professor of Medicine, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota. W. B. Saunders Co., Philadelphia, 1948. Price, \$8.

HISTORY OF THE MEDICAL SOCIETY OF THE COUNTY OF WESTCHESTER, 1797-1947—A compilation from the available minutes of the Society and various contemporary sources during the years for which the minutes were lost. Published by the Medical Society of the County of Westchester, 1947.

MODERN CLINICAL PSYCHIATRY—By Arthur P. Noyes, M.D., Superintendent, Norristown State Hospital, Norristown, Pa. W. B. Saunders Co., Philadelphia, 1948. Price, \$6.

NEUROANATOMY—By Fred A. Mettler, A.M., M.D., Ph.D., Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University, New York. Second edition. The C. V. Mosby Company, St. Louis, 1948. Price, \$10.

PHYSIOLOGY OF EXERCISE—By Laurence E. Morehouse, Ph.D., Associate Professor of Physical Education, the University of Southern California; Formerly Research Fellow, Harvard Fatigue Laboratory; and AUGUSTUS T. MILLER, JR., Ph.D., Associate Professor of Physiology, University of North Carolina Medical School. The C. V. Mosby Company, St. Louis, 1948. Price, \$4.75.

SYNOPSIS OF PEDIATRICS—By John Zahorsky, A.B., M.D., F.A.C.P., Professor of Pediatrics and Director of the Department of Pediatrics, St. Louis University School of Medicine, and Pediatrician-in-Chief to the St. Mary's Group of Hospitals; Fellow of the American Academy of Pediatrics; assisted by T. S. Zahorsky, B.S., M.D., Senior Instructor in Pediatrics, St. Louis University School of Medicine, and Assistant Pediatrician to the St. Mary's Group of Hospitals. Fifth edition. The C. V. Mosby Company, 1948. Price, \$5.50.

A TEXT-BOOK OF PATHOLOGY—By William Boyd, M.D., Dipl., Psych., M.R.C.P., Edin.F.R.C.P., Long., LL.D., Sask., M.D., Oslo, F.R.S.C., Professor of Pathology and Bacteriology of the University of Toronto, Toronto. Fifth edition, thoroughly revised. Lea & Febiger, Philadelphia, 1947. Price, \$10.

TREATMENT OF HEART DISEASE—By William A. Brams, M.S., M.D., Ph.D., Associate Professor of Medicine, Northwestern University Medical School, and Attending Physician, Michael Reese Hospital, Chicago. W. B. Saunders Co., Philadelphia, 1948. Price, \$3.50.

VASCULAR DISEASES IN CLINICAL PRACTICE—By Irving Sherwood Wright, M.D., Associate Professor of Clinical Medicine, Cornell University Medical College; Chief of Section on Vascular Diseases of the Department of Medicine, New York Hospital. The Year Book Publishers, Inc., Chicago, 1948. Price, \$7.50.

THE 1947 YEAR BOOK OF PATHOLOGY AND CLINICAL PATHOLOGY—Edited by Howard T. Karsner, M.D., Professor of Pathology, Director of the Institute of Pathology, Western Reserve University, Cleveland. Assistant Editor—HERBERT Z. LUND, M.D., Assistant Professor of Pathology, Western Reserve University, Cleveland; CLINICAL PATHOLOGY edited by ARTHUR HAWLEY SANFORD, M.D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation); Senior Consultant, Division of Clinical Laboratories, Mayo Clinic. The Year Book Publishers, Inc., Chicago, 1948. Price, \$3.75.

YOU AND YOUR DOCTOR—A Frank Discussion of Group Medical Practice and Other Modern Trends in American Medicine—By Benjamin F. Miller, M.D., Clinical Professor of Medicine, George Washington Medical School; Research Associate in Medicine, National Research Council; formerly associated with the University of Chicago Clinics and the United States Public Health Service. Whittlesey House, McGraw-Hill Book Company, Inc., New York. Price, \$2.75.

BOOK REVIEWS

CLINICAL DIAGNOSIS BY LABORATORY METHODS

A Working Manual of Clinical Pathology—By James Campbell Todd, Ph.B., M.D., Late Professor of Clinical Pathology, University of Colorado School of Medicine; ARTHUR HAWLEY SANFORD, A.M., M.D., Professor of Clinical Pathology, Mayo Foundation, University of Minnesota; Senior Consultant, Division of Clinical Laboratories, The Mayo Clinic; with the collaboration of GEORGE GILES STILWELL, A.B., M.D., Division of Clinical Laboratories, The Mayo Clinic. Eleventh edition. W. B. Saunders Company, Philadelphia, 1948. Price, \$7.50.

This well-known book needs no introduction to the medical profession, having been a standard textbook for forty years and now in its eleventh edition. The revision is thorough; it includes a number of new subjects such as cold agglutination, conglutination test for Rh sensitization, the cephalin flocculation liver function test, and methods for assaying antibiotics.

The importance of bone marrow studies is recognized by the increasing space allotted to this subject. The section on medical mycology has also been expanded under the able assistance of Dr. E. P. DeLamater.

On the technical side, the quality of the paper is much better than the previous edition, resulting in clearer print and illustrations. A number of excellent color plates have also been added. The proper nomenclature of bacteria is used rather than the common names formerly used. One of the most notable additions is that of a well selected bibliography. This book is highly recommended for technicians, medical students and physicians.

T. M.

CLINICAL TOXICOLOGY

By Clinton H. Thienes, M.D., Ph.D., Professor of Pharmacology and Head of the Department of Pharmacology and Toxicology, School of Medicine, University of Southern California, Los Angeles; Attending Patholo-

gist (Toxicology), Los Angeles County Hospital; and THOMAS J. HALEY, Ph.D., Fellow in the Department of Pharmacology and Toxicology, School of Medicine, University of Southern California; Formerly Graduate Assistant in Pharmacology, University of Florida, and Formerly Medical Director of E. S. Miller Laboratories, Los Angeles. Second edition. Lea & Febiger, Philadelphia, 1948. Price, \$4.75.

This little book is a second edition, written, as the authors state in their preface, "primarily as a classroom text and as a guide for the general practitioner." In general, the organization and presentation of the subject matter substantiates this aim. The poisons discussed are arranged in accordance with their principal sites of action and clinical symptomatology. A section on the principles of treatment and an outline of symptoms diagnosis should prove useful to the student and general practitioner.

A considerable portion of the book is devoted to the chemical diagnosis of poisoning, but there is no discussion of the medico-legal aspects of toxicology important from the standpoint of the general practitioner. It would seem to the reviewer that despite the general excellence of the text, the interests of the general practitioner and student might be better satisfied by devoting less attention to the chemical identification of poisons and placing more emphasis upon medico-legal responsibilities of the physician, and proper preservation of tissues to be subsequently analyzed.

In general, the text is succinctly and lucidly written, and should be of value to the general practitioner and student.

S. K. D.

THE SELECTED WRITINGS OF BENJAMIN RUSH

Edited by Dagobert D. Runes. The Philosophical Library, New York, 1947. Price, \$5.

"The Selected Writings of Benjamin Rush," edited by Dagobert Runes, will be read with great enjoyment by doctors or laymen who are historically minded. The writings of this famous American physician reveal to the modern reader a fascinating picture of Revolutionary days in Philadelphia.

Dr. Rush was a contemporary of Benjamin Franklin, and like him, was a prolific writer. He became Professor of Medicine in the University of Pennsylvania, America's first medical school, and Rush Medical College in Chicago, the first medical school west of the Alleghenies, was named in his honor.

This collection of essays and letters deals with such diverse subjects as slavery, education, politics, and natural sciences, as well as medical topics. Benjamin Rush proves himself to be a philosopher of the first rank and a prophet of things to come, such as the abolition of slavery and the establishment of a universal educational system.

The parts of the book devoted to medical subjects give one an accurate insight into the medical theories held two hundred years ago. Only after reading such a book does one realize fully the profound effects produced by scientific discoveries in the nineteenth and twentieth centuries.

J. M. B.

SURGICAL PATHOLOGY

By William Boyd, M.D., Dipl., Psychiat., M.R.C.P. Edin., F.R.C.P. Lond., LL.D. Sask., M.D., Oslo, F.R.S.C., Professor of Pathology, the University of Toronto. Sixth edition. W. B. Saunders Co., Philadelphia, 1947. Price, \$10.

A good book is worth many editions. So, therefore, it should be no surprise that Boyd's Surgical Pathology has reached its sixth. The descriptions are clear and vivid and the correlation of tissue change to symptoms excellent. We prophesy and hope for many more printings.

While looking over these familiar pages, I wondered how many surgeons did likewise. Too few, I fear,—far too few. Yet if anyone should be versed in the gross appearance of tissue, should it not be the surgeon? We have trained him to expect a pathologist forever at his elbow, but that is not wise. The expert should be called upon for expert opinion, but shall the surgeon have to call upon him for the very ABC's of pathology?

Surgical pathology—let the adjective mean not only "of tissue removed surgically," but also "for those who aspire to merit the name of surgeon."

J. S. W.

TREATMENT IN GENERAL PRACTICE

By Harry Beckman, M.D., Professor of Pharmacology, Marquette University School of Medicine, Milwaukee, Wisconsin. Sixth Edition. W. B. Saunders Company, Philadelphia, 1948. Price, \$11.50.

This is my first formal introduction to this well-known book. I had always avoided it for some reason, thinking I might not like it. However, it is delightfully written, scientifically accurate, and sprinkled with quips from the author that enliven the reading.

Many subjects have been completely rewritten to keep pace with modern therapeutics, others have been added for the first time. Such new additions include: Loeffler's Syndrome, Management of Penicillin Reactions, Pulmonary Aspergillosis, Reiter's Syndrome and Thrombosis and Embolism, plus many more. As in previous volumes, a short description of each disease precedes the therapeutic discussion. I have particularly appreciated the author's inclusion of his personal impressions! They are pegs on which one can hang his hat.

D. A. G.

SOCIETY PROCEEDINGS

MEETINGS

Lee County

Members of the Lee County Medical Society met July 7 at Keokuk. Dr. Edmund S. Donohue of Sioux City discussed management of fractures and bone grafts for hip fractures, and Dr. Edward M. Honke, also of Sioux City, spoke on cancer of the prostate gland and tumors of the kidneys.

Linn County

Dr. Don S. Challed recently took over the presidency of the Linn County Medical Society and Dr. Rothwell D. Proctor was named president-elect; Dr. John Parke, secretary; Dr. William G. Kruckenberg, treasurer; Dr. Callistus H. Stark and Dr. Phil Crew, delegates, and Dr. James Redmond and Dr. Lawrence J. Halpin, alternates. Dr. Thomas F. Hersch, chairman of the program committee, announced that the program season will open September 1 with a dinner meeting for the doctors and their wives at which Dr. George W. Corner, head of the department of embryology at the Washington Institute of Medicine, will speak.

Tama County

Dr. and Mrs. Charles R. Roberts of Dysart were hosts to the members of the Tama County Medical Society and their wives at a 6:30 p.m. dinner at the Busy Bee Cafe, Dysart, June 24. Following dinner the group went to the Community Building where a film, "The Problem Child," was shown.

Wright County

Members of the Wright County Medical Society held an afternoon and evening meeting June 17 at the Eagle Grove Country Club. Golf matches were held in the afternoon followed by dinner and a business meeting.

PERSONALS

Dr. John R. Camp has opened offices for the practice of medicine in Thompson. He recently completed his internship at Iowa Methodist Hospital, Des Moines.

Dr. Paul Cash, formerly on the Berkeley Hospital staff, Berkeley, California, has announced his intentions to open a private practice in Des Moines in the near future. He will also be associated with the Iowa Methodist Hospital there.

Dr. Hunter H. Comly has been appointed assistant professor of pediatrics in the Department of Psychiatry at the State University of Iowa. He will begin his duties September 1. Dr. Comly recently completed a residency at the University of Minnesota.

Dr. Edward A. Hanske, Jr., who completed his internship at Mercy Hospital, Chicago, on July 1, will begin practice in Bellevue August 1. Dr. Hanske is a graduate of the State University of Iowa College of Medicine.

Dr. Kenneth E. Lister has become associated with Drs. Elias B. Howell and Glenn C. Blome of Ottumwa. A graduate of the State University of Iowa College of Medicine with the class of 1938, Dr. Lister recently served a surgical fellowship at the University of Minnesota, Minneapolis.

Dr. Gerald J. Nemmers, formerly of Dubuque, is now associated with Dr. Murry L. McCreedy of Washington. Dr. Nemmers was graduated from the State University of Iowa in 1945, served his internship in St. Francis Hospital, La Crosse, Wis., and since that time has been a medical officer in the U. S. army.

Dr. R. T. Nielsen has taken over the practice of Dr. Jess W. Foster in Ankeny. Dr. Nielsen was graduated from the University of Nebraska in 1945, interned at the University Hospital in Omaha, and recently completed twenty months' service with the Army Medical Corps.

Dr. William G. Rence of Chicago has located in Sigourney as an associate of Dr. Clarence L. Heald at the Sigourney Hospital. He is limiting his practice to diagnosis and treatment. Dr. Rence was resident physician in the Department of Internal Medicine at the University Hospitals after his return from military service, and for the past two years has been on the staff of the Monroe Clinic at Monroe, Wis.

Dr. Fred Sperry and Dr. Norman Johnson of Clarinda have formed a partnership. Dr. Johnson came to Clarinda in 1939 and Dr. Sperry in 1946.

Dr. Arthur Steindler, whose retirement was announced earlier, will remain as Professor and Head of the Orthopedic Surgery Department at the State University of Iowa College of Medicine until December 31, 1948. He has been head of the department since 1915.

DEATH NOTICE

Brown, Ernest Lehman Wheeler, of Iowa Falls, aged 73, died July 9 at Ellsworth Municipal Hospital. A graduate of the University of Illinois College of Medicine with the class of 1902, Dr. Brown came to Iowa Falls five years ago. He was a member of the Hardin County and Iowa State Medical Societies.

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THE TREATMENT OF CARCINOMA OF THE CERVIX

Roland S. Cron, M.D., Milwaukee, Wis.

The treatment of carcinoma of the uterine cervix will be presented from three standpoints: (1) prevention; (2) cure; (3) palliative relief. It is doubtful if there is any disease in which prevention of the development of a primary lesion is more important than in this one. Most illnesses are self limited and the majority of the remaining ones have been or are being successfully combatted with more or less specific therapy. In the case of cervical cancer, as in all cancer, prevention is most important. Therefore, education of the public to undergo frequent periodic complete examinations is advisable and it is imperative that competent medical counsel be sought when first symptoms appear. Women should be made to realize that the surest way to prevent the appearance of cervical cancer is to submit to an examination which is only complete when the cervix has been visualized and, if necessary, biopsied.

Further prevention consists in restoring the diseased cervix to as normal a state as possible. This can be accomplished by cauterization of the eroded or infected cervix with the fine pointed electric cautery. Escorotics such as silver nitrate and phenol are not recommended, while conization of the badly eroded or infected cervix is an excellent procedure. This can be done with the high frequency cutting current or by surgical extirpation. The latter procedure is best carried out according to the technic described by Stundorf. It is often a sanguinous and formidable procedure and therefore is not recommended as a routine method of treatment. Repair of the lacerated everted cervix is frequently in order. The tissue removed by any of these procedures should be submitted to a pathologist for microscopic study. Electrocoagulation of the cervix damages the tissues so badly that microscopic study is impossible. Furthermore, coagulation may often produce trouble-

some stenosis of the cervical canal. Repeated cauterization of the cystic cervix is not good practice. Puncture of the cysts does not cure the condition. Instead, additional cysts develop—the result of the closure of the ducts of compound racenous glands by scar tissue. Conization will remove the cervical glands and prevent further cystic change. The cystically degenerated cervix rarely becomes malignant. Establishment of normal flora and vaginal secretions contribute to the prevention of cervical cancer, for it has long been known that all cancer is associated with infections.

Cervical cancer is prevented when that organ is removed either by means of a total hysterectomy or amputation. Some operators do not advocate total hysterectomy because they believe it results in shortening of the vagina, higher morbidity, and occasional fistula formation. Even so, whenever the cervix is diseased and a hysterectomy is indicated, if the total operation can be performed safely, this should be undertaken. If an unhealthy cervix is left in place it should be treated postoperatively. Cancer of the cervix cannot develop in the extirpated cervix. Very rarely has it appeared in a healthy organ. In thirty years of active obstetric and gynecologic practice the author has not observed a carcinoma develop in the cervix of any patient for whose care he has been responsible. It is his contention that squamous cell carcinoma, which makes up at least 95 per cent of cervical cancer, rarely appears in a healthy cervix.

One of the most serious problems confronting the patient with carcinoma is the interval or lag from the appearance of the first symptoms to the initiation of proper treatment of the lesion. Much can be done to prevent the advancement of the early cancer to a late one if better cooperation could be obtained from the practicing physician and patient. Evidence has been accumulated to show that by education of the public the time interval from the appearance of the first symptoms of cervical cancer to consultation with a physician has not been reduced. Intensive education of the

public must be continued. On the other hand, the time interval from the consultation with a physician until proper treatment has been instituted has decreased. It is, therefore, most important that the physician examine his patient at the time of the first visit. Furthermore, this examination should be complete to the point of visual inspection of the cervix, and biopsy of all suspicious lesions. Then if carcinoma is present, proper treatment should be initiated immediately.

Cure: Most of the patients treated for cervical carcinoma at Columbia Hospital, Milwaukee Hospital and Milwaukee County General Hospital were hospitalized during the initial stages of the therapy. X-ray therapy was given first in most instances in order to combat parametrial thickening, for if this proceeds unchecked it will be fatal. Further advantages of this regimen of treatment are that x-ray aids in cleaning up infection and reduces the size of the tumor, thereby making the insertion of radium easier and more effective. It also has a tendency to seal off the lymphatics, preventing the spread of cancer cells. Usually four and occasionally five or six ports were used delivering to each field 1,200 or 2,000r. for a total of from 2,400 to 6,600rs. This fractionated or divided method delivers to the parametrium a maximum dose with fewer secondary reactions. We have had no experience with the vaginal cone although frequently a perineal field has been used.

Earlier in our treatment of cervical cancer, radium element was applied prior to x-ray therapy. Later about one-half of the planned dose of x-ray was given and then the radium introduced. Since about 1940 radium has been applied two to four weeks following the last x-ray treatment. The average dose applied intracavitary, over the face of the cervix and into the lateral, anterior and posterior fornices of the vagina has been between 3,600 and 6,000 mg. hours. The radium has been filtered with 1 mm. of platinum. In the past, 10 to 12½ mg. interstitial needles have also been used with apparently good results.

A proper screening or the radium, protection of the vagina, rectum and bladder by means of well placed packing, and decompression of the bladder by catheterization must be practiced to prevent future radium reaction with possible fistula or stricture formation. Administration of vitamin B complex during the stage of active roentgen therapy in order to control gastro-intestinal distress should be mentioned. The radium patient's treatment should be individualized and the applicators used should fit the type of lesion present. No one applicator is applicable for all

types of cervical lesions. Applicators which may radiate the uterine canal, face of the cervix, parametrial regions, base of the bladder or sacro-uterine ligaments are ideal. The amount of x-ray treatment delivered to the patient has depended upon the dose of radium applied to the cervix. When that dose has been high, the x-ray has been proportionately low. This, of course, accounts for the variation in both the radium and x-ray dosage mentioned above.

Whenever possible, it has been our policy to concentrate the entire series of x-ray and radium treatments into a period not to exceed four to six weeks. It is our opinion that end results have improved with this arrangement. Certainly it is a better practice than that once indulged in at one of our institutions where treatment covered a period of three months or more. There again and again the growth of carcinoma seemed to have been stimulated rather than retarded. Treatment over long intervals has had a two-fold effect in that there is a decreased biologic response to the given dose of radium and a consequent decreased efficiency from the radium to the lesion. The importance of early treatment cannot be over-emphasized. The patient's future is decided by the treatment instituted and carried out by the physician or physicians first caring for her.

Mail order houses renting radium indiscriminately and advising by telephone or postman the type of treatment and dosage to be used for cancer have been a big factor in continuing the very unsatisfactory end results in the treatment of this disease. There are many patients with cervical carcinoma who have been treated most inadequately because some one of these institutions made it appear that all one needed to do was insert into the cervical canal or vault of the vagina a 50 or 100 mg. capsule of radium. Then by some magic the cancer is supposed to be cured. At times there is no gynecologic procedure more difficult to perform than the proper introduction of placing of radium. Since the patient with an early cervical carcinoma does not need the same dosage or type of application of radium as does the woman with a large cauliflower growth or a deep excavating ulcer, individualization in the treatment of this disease is most essential.

It will be noted that an occasional microscopic or very early cervical lesion has been successfully removed by surgical extirpation. In most cases this lesion was found in the cervix following total panhysterectomy for some other uterine lesion. The practice of either total panhysterectomy or the radical Wertheim for cervical carcinoma is not here advocated. Equally good or even better

results have been obtained by x-ray and radium therapy without the high risk of life, morbidity, and adjacent organ damage as is obtained by operative procedures. Meigs has recently reported his end results following the Wertheim operation with a primary mortality of 1.9 per cent and a complication of five cases of ureterovaginal fistula. His end results as yet cannot be accurately evaluated. Since there are so few operators capable of performing this radical procedure, it is the writer's contention that in the best interests of the carcinoma patient it is not the wisest practice to follow.

Surgical extirpation of the uterus and adnexa following adequate x-ray and radium therapy has not improved the end results of the treatment of this disease and so is not considered to be good practice by most authorities. Extra-peritoneal lymphadenectomy for patients who have stage two or three cancer and who have reached adequate x-ray and radium therapy is considered advisable by some operators.

A discussion of the treatment of cervical cancer would not be complete unless one mentioned pregnancy complicated by cervical cancer. Before viability of the fetus, the usual adequate x-ray and radium therapy should be administered. No consideration should be shown the fetus. If the fetus is nearing viability or is viable, then the carcinoma should be ignored and the pregnancy terminated as early as is advisable by means of cesarean section.

Palliative Relief: Not all patients with cervical carcinoma should be treated. Both x-ray and radium have frequently suffered disrepute because of so-called failure to cure advanced cancer. The patient with far advanced malignancy may not be benefited by treatment. However, one occasionally sees advanced stages of cancer which respond favorably to therapy. Active bleeding and a foul discharge are symptoms which call for relief by this type of therapy. Anemia should be combatted with transfusions or some less drastic procedure.

The relief of pain during the latter stages of advanced cancer should be accomplished as long as possible without the use of habit-forming drugs. For that reason a combination of aspirin and codeine is to be preferred over morphine. Recently we have administered some of the synthetic pain-relieving products. Excruciating pain may be relieved by intrathecal administration of alcohol and occasionally by chordotomy. Presacral neurectomy for the control of pain has not been effective in the advanced stages of pelvic cancer.

Finally, in the terminal weeks of the disease, there is no objection to the liberal use of morphine.

One of the greatest difficulties experienced by the practicing physician in the care of the carcinoma patient is the subsequent "follow-up." The profession appreciates that a patient is never considered cured until at least five to ten years have elapsed from the time of the original therapy. Therefore, carcinoma patients should be examined at regular intervals every three, four or six months for at least five years. If any evidence of recurrence appears, further therapy should be administered. Even though patients are advised to return for these examinations a high percentage fail to do so. Many think it is unnecessary; others prefer to remain ignorant of their progress, while some are physically unable to do so.

As a result of the many problems relative to the treatment of cervical cancer, might it not be wise to arrange for these patients to be cared for by a team? Certainly the best results obtained thus far in America have been those in which an accomplished group of physicians has, each in his own field, directed the treatment and then some type of social service or lay personnel have been relied upon for the follow-up.

Between the years 1932 and 1942, 72 patients with cancer of the cervix were treated in one of two private hospitals. The technic used and x-ray and radium applied to these patients has been indicated elsewhere in this paper. A study of these 72 women showed that the malignancy may appear any time from the twenties on through the sixties. The ages varied from 29 to 66 years with an average of 46 years. Squamous cell or epidermoid carcinoma was found in 60 cases, while adenocarcinoma was diagnosed in 12. Ten patients were found to have stump cancer. This is a very high percentage and is due in part to the fact that three patients had subtotal hysterectomies performed at other institutions for adenocarcinoma of the fundus. Undoubtedly the previous inadequate surgery resulted in an incomplete removal of all carcinomatous tissue.

Both grading and stage of the disease had a definite influence upon the end results. In 24 of the patients treated the lesions were considered to be stages I or II, which meant that the carcinoma was still confined to the cervix. Four of these patients died from generalized carcinomatosis. The other 6 patients, making 26 in all, who are alive and well, had stage III lesions. There were 4 additional patients with stages III and IV lesions who lived more than five years but eventually died from carcinomatosis. Four more who could not be traced have, from a statistical

standpoint, been considered dead. There are then 26 or 36¼ per cent of the 72 patients alive and well five to ten years following treatment. Grading of the tumors was not done on all lesions, but our impression is that in those patients who have survived, there was a preponderance of grade 2 and 3 lesions over the higher grade 4. One of the living patients has a rectovaginal fistula and another experienced a resection of the lower sigmoid because of radiation stricture.

Summary

1. Prevention in the development of carcinoma of the cervix should be accomplished by: (a) continued education of women to submit to periodic complete pelvic examinations and to seek immediate treatment for any evidence of dysfunction of their generative organs; (b) continued education of the profession to completely examine the female genitalia upon the initial visit of the patient, and to personally institute curative treatment of all benign lesions of the cervix as early as possible.

2. When the diagnosis of carcinoma has been made, immediate deep x-ray therapy and radium treatment should be instituted. The patient's future depends upon the dispatch with which this is accomplished.

3. A system of follow-up is essential. Patients should be re-examined at frequent intervals so that any recurrence of the carcinoma may be promptly treated.

4. The earlier the lesion and the lower the grade of the cancer, the higher the survival rate. There are living and well 26 or 36¼ per cent of the 72 patients studied.

POLIOMYELITIS IN CHILDREN: A CLINICAL STUDY

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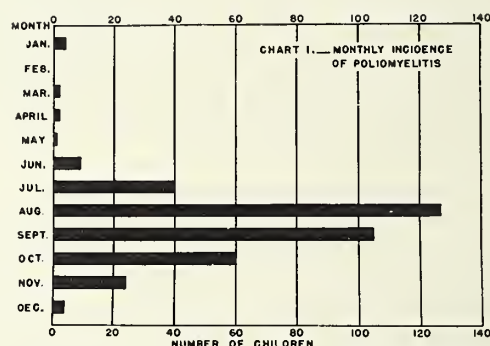
The purpose of this paper is to report clinical experiences with poliomyelitis in children who were seen in the Department of Pediatrics of the State University of Iowa during a ten-year period from Jan. 1, 1937, through Dec. 31, 1947. All records of children admitted to this hospital late in the course of their disease and records with inadequate data and questionable diagnoses were eliminated. A total of 93 records was eliminated, leaving 378 records for this study. Our data represent primarily the findings during the acute phase and a general evaluation of the children

later in the course of their disease. Details of observations made and orthopedic and physiotherapeutic management during the later stages of their disease were intentionally omitted from this study.

Definitions

To minimize confusion and misunderstanding, definitions of certain terms used in this paper are in order.

Abortive poliomyelitis—A type with a presumptive diagnosis of poliomyelitis characterized by symptoms of a nonspecific illness occurring during an epidemic, absence of muscle weakness, and with spinal fluid findings compatible with poliomyelitis.



Spinal poliomyelitis—A type with evidences of muscle weakness and with spinal fluid findings compatible with poliomyelitis. The term "paralytic-recovered" refers to those children who had definite muscle weakness at the time of admission but who eventually recovered completely. The term "paralytic-residual" refers to those children who had definite muscle weakness at the time of admission and who have continued to show muscle weakness of variable degree and extent at the last follow-up examination.

Bulbar poliomyelitis—A type characterized by palsies of the cranial nerves and evidence of involvement of the brain stem.

Bulbospinal poliomyelitis—A type characterized by a combination of the spinal and bulbar types.

Polioencephalitis—A form of encephalitis occurring during an epidemic and presumably due to the virus causing poliomyelitis.

Incidence

Race incidence—All of the 378 children seen were of the white race. Statistically, this incidence was not significant because the population of Iowa is predominantly white.

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Technical assistance by Mrs. Helen Kelly, M.S., Statistician.

Sex incidence—Of the 378 children seen, 238, 63 per cent or roughly three-fifths were boys and 140, 37 per cent or roughly two-fifths were girls. The predominance of the disease in boys was statistically significant.

Age incidence—Table 1 shows the age distribution. The mean age for this group was 8.3 years. The highest incidence was among those between the ages of 4 to 5.9 years. About 19 per cent of the children fall within this age group. Statistically, this variation in age incidence was significant. There were 6 children in the group who were less than one of age—an incidence of only 1.6 per cent, which was a statistically significant deviation from equal distribution in the age groups. The youngest child seen in this group was a male 5 weeks of age.

TABLE 1 Incidence of Poliomyelitis According to Age		
Age in years	Number of Children	Per cent
0 to 1.9	16	4
2 to 3.9	55	15
4 to 5.9	72	20
6 to 7.9	44	11
8 to 9.9	55	15
10 to 11.9	44	11
12 to 13.9	39	10
14 to 15.9	53	14
Total number of children	378	100

Monthly incidence—Chart 1 shows the incidence according to month. The peak was significantly in August. About 88 per cent of the children developed their disease during the period from July through October. About 97 per cent developed their disease during the period from June through November.

Yearly incidence—The number of children seen was high in 1940, 1945, and 1946. From these data alone, the yearly incidence was not significant and should not be emphasized as being indicative of the yearly incidence in Iowa. There were 5 children seen in 1941, but the records of these children were among the 93 which were eliminated for reasons stated previously.

Contact incidence—Approximately 85 per cent of the children had no known contact with other patients with poliomyelitis. Only 3 per cent had intimate contact. About 6 per cent reported the occurrence of “flu” in one or more of their close neighbors and 6 per cent in other members of the family. About 8 per cent reported the occurrence of poliomyelitis in one or more members of the family.

Operations and wounds—Tonsillo-adenoidectomies were performed in only 0.8 per cent of the children during a period of less than three months prior to their illness. Other operations were performed and wounds occurred in only 0.8

per cent of the children during a period less than three months prior to their illness.

Type incidence—Table 2 shows the incidence of the various types of poliomyelitis seen in this hos-

TABLE 2 Incidence of Various Types of Poliomyelitis		
Type	Number of Children	Per cent
1. Abortive	104	28
2. Spinal	204	54
3. Bulbar	31	8
4. Bulbospinal	30	8
5. Encephalitic	9	2
Total number of children	378	100

pital. Obviously, if we had seen more abortive types, incidence in per cent of the other types would have been lower.

Symptoms

Data regarding symptoms were obtained from the history of each child. Symptoms in this instance refer to observations made by the child’s parents or escort and by the sensations experienced and observations made by the child. No differentiation was made between the symptoms occurring during the first phase and the second phase in the so-called remission (misnamed “dromedary”) type, inasmuch as only a small percentage of our children presented a history of the remission type. On Table 3 are listed the incidence of symptoms according to diminishing frequency. Whenever adequately descriptive, the informant’s own words were listed. The most common symptoms were fever, headache, muscular aches and pains, vomiting, stiff-neck, weak legs and changes in gait, tiredness, loss of appetite, and nausea. Gastro-intestinal symptoms, that is, vomiting, loss of appetite, nausea, constipation, and diarrhea were fairly common as a whole. Nevertheless, constipation (10 per cent) and diarrhea (6 per cent) were relatively uncommon symptoms.

Findings

Physical findings refer to findings at the time of admission of the child to this hospital; in a few uncooperative children, we tabulated the findings listed on the first or second day after admission. The most common findings were stiff-neck, fever, positive Kernig’s sign, pharyngeal injection, muscle tightness or spasm, muscle tenderness, and spotty weakness in both legs. On table 4 are listed the incidence of findings according to diminishing frequency. Note that muscle tightness or spasm was a relatively uncommon finding. These terms were rarely, if ever, used before the Kenny era. The low incidence as stated should be disregarded.

Table 5 shows the relative frequency of spotty muscle weakness in the extremities; 221 out of

TABLE 3

Incidence of Symptoms in 378 Children With Poliomyelitis
According to Diminishing Frequency

Symptom	Number of Children	Per cent
Fever	327	87
Headache	216	50
Muscular aches and pains	175	46
Vomiting	164	43
Stiff-neck	147	39
Weak legs and change in gait	138	37
Tiredness	128	34
Loss of appetite	115	30
Nausea	90	24
Weak arms (one or both)	59	16
Sore throat	55	15
Neck pain	49	13
Drowsiness	45	12
Increased irritability	44	12
Abdominal pain	44	12
Constipation	36	10
Difficulty in swallowing	31	8
Nasal voice	27	7
Rhinorrhea	25	7
Diarrhea	21	6
Chilly sensations	20	5
Cough	15	4
Dizziness	14	4
Oliguria	14	4
Inability to sit up	12	3
Shortness of breath	10	3
Tremors	9	2
Nasal regurgitation	8	2
Stiff back	8	2
Nosebleed	7	2
Photophobia	7	2
Earache	6	2
Muscular twitching	5	1
Urinary incontinence	5	1
Diplopia	5	1
Increased sweating	5	1
Cyanosis	4	1
Urinary frequency	4	1
Facial weakness	4	1
Convulsions	4	1

Each of the following symptoms occurred in less than 1 per cent of the children: retrobulbar pain, ptosis of eyelids, chest pain, weak neck, fainting, blurred vision, aphonia, abdominal distention, and weak back.

378 children had muscle weakness in one or more extremities. No attempt was made to indicate the degree of weakness or to name each muscle that was involved. For example, a single weak muscle in the left forearm placed that finding under the category of weak left arm. The data indicate that the chance of developing simultaneous weakness in both legs is six times as great as that of developing simultaneous weakness in both arms. Table 6 shows that the muscles of the lower extremities were involved more frequently than those of the upper. The data indicate the probability that if a child has poliomyelitis and has muscle weakness, he has a 2 to 1 chance of developing weakness in his legs rather than in his arms.

The mean rectal temperature at the time of admission was 101 F. About 36 per cent of the children had no fever; less than 101, 22 per cent; less than 102, 47 per cent; less than 103, 87 per cent; less than 104, 93 per cent; and less than 105, 99 per cent. Further analysis regarding mean rectal temperature according to types revealed the following findings: abortive, 101.6; paralytic - recovered, 100.7; paralytic - residual, 100.3; bulbar, 101.7; bulbosplinal, 100.7; and encephalitic, 101.4 F. The mean temperature for those who died was 102.6 F. Temperature was

statistically higher for those who died except when compared with bulbar and encephalitic types. In the abortive type, temperature was significantly higher than in all types except in bulbar and encephalitic types.

Laboratory Findings

Blood—The mean hemoglobin value, expressed in grams in 100 cubic milliliters of blood, determined at the time of admission was 13.3; slightly more than 85 per cent of the children had a hemoglobin value between 11 and 15.

TABLE 4

Incidence of Findings in 378 Children With Poliomyelitis
According to Diminishing Frequency

Finding	Number of Children	Per cent
Stiff-neck	269	71
Fever	234	64
Positive Kernig's sign	125	33
Pharyngeal injection	105	31
Muscle tightness or spasm	91	24
Muscle tenderness	58	15
Spotty weakness in both legs	47	12
Spotty weakness in left leg	43	11
Weak abdominal muscles	41	11
Spotty weakness in right leg	40	11
Injected tonsils	30	8
Head drop	28	7
Spotty weakness in left arm	24	6
Marked dental caries	23	6
Weak back muscles	21	6
Spotty weakness in both arms and both legs	21	6
Difficulty in swallowing	20	5
Drowsiness	20	5
Nasal voice	18	5
Weak intercostal muscles	17	5
Spotty weakness in right arm	15	4
Right facial weakness	15	4
Rhinorrhea	12	3
Cyanosis	10	3
Generalized weakness	9	2
Spotty weakness in both arms	8	2
Ankle clonus	7	2
Bladder retention	7	2
Dehydration	7	2
Flushed skin	6	2
Left facial weakness	6	2
Hyperactive knee-jerks	5	1
Weak diaphragm	5	1
Spotty weakness in left arm and left leg	5	1
Nystagmus	5	1
Hyperesthesia of skin	5	1
Ptosis of right eyelid	4	1
Spotty weakness in right arm and right leg	4	1
Spotty weakness in right arm and left leg	4	1
Spotty weakness in left arm and both legs	4	1
Weakness of the soft palate	4	1
Tremors	4	1
Fibrillary twitching	4	1

Each of the following were found in less than 1 per cent of the children: aphonia, spotty weakness in left arm and right leg, poor rectal tone, abdominal tenderness, ocular palsy, photophobia, unequal pupils, catarrhal otitis media, fecal impaction, spotty weakness in both arms and right leg, positive Babinski sign, spotty weakness in right arm and both legs, deviation of tongue to the left, circumoral pallor, ptosis of left eyelid, and conjunctivitis.

The mean erythrocyte count, expressed in numbers in each cubic millimeter of blood, was 4.8 million; slightly more than 85 per cent of the children had an erythrocyte count between 4 and 6 million.

The mean leukocyte count, expressed in numbers in each cubic millimeter of blood, was 10,068, indicating a tendency toward a normal or slightly increased count. Leukocyte counts ranged from 2,000 to 27,000. About 90 per cent of the children had a count of less than 20,000 and about 75 per cent had a count of less than 11,500. Fur-

ther analysis according to types revealed mean values as follows: abortive, 9,411; paralytic-recovered, 9,832; paralytic-residual, 8,751; bulbar, 10,223; bulbospatial, 10,500; and encephalitic, 9,163. Those who died had a mean value of 13,-350. There were no statistical differences shown except for significantly higher leukocyte counts in those who died than in all types except bulbar and bulbospatial types.

Urine—No significant urinary findings were noted. A few children revealed a trace of proteinuria or acetonuria.

Spinal fluid—The mean spinal fluid leukocyte count, expressed in numbers in each cubic millimeter, was 98. Individual counts varied from 0 to 1,400. About 68 per cent of the children had counts of less than 100, 36 per cent less than 50, and 12 per cent less than 10. Further analysis according to types revealed mean counts as follows: abortive, 125; paralytic-recovered, 96; paralytic-residual, 108; bulbar, 106; bulbospatial, 61; and encephalitic, 61. Those who died had a mean count of 125. In bulbospatial and encephalitic types the mean count was lower than in the other types. No statistically significant correlation was evident between severity of illness and the spinal fluid leukocyte count.

TABLE 5		
Frequency of Spotty Weakness in Extremities in 221 Children With Poliomyelitis		
Extremity or combinations of extremities	Number of Children	Per cent of 221 Children with Weakness in Extremities
Right arm	15	7
Left arm	24	11
Right leg	40	18
Left leg	43	19
Both arms	8	4
Both legs	47	21
Right arm and right leg	4	2
Left arm and left leg	5	2
Right arm and left leg	4	2
Left arm and right leg	3	1
Right arm and both legs	1	1
Left arm and both legs	4	2
Both arms and right leg	2	1
Both arms and left leg	0	0
Both arms and both legs	21	10
Total Number of Children	221	100

Differential counts of the spinal fluid leukocytes revealed a mean value of 80 per cent round cells. Slightly over 82 per cent of the children had 100 per cent round cells.

The mean value for spinal fluid protein, expressed in milligrams in each 100 cubic milliliters of spinal fluid, was 49. About 85 per cent of the children had spinal fluid protein values of less than 80, 47 per cent less than 40, and only 8 per cent had more than 100. Further analysis according to types revealed mean values as follows: abortive, 40.6; paralytic-recovered, 43.8; paralytic-residual, 55.5; bulbar, 74; bulbospatial, 63.3; and encephalitic, 30. Those who died

had a mean value of 51.2. In general, no statistical differences could be determined in mean values according to types. However, in the bulbar type the mean value was significantly higher than in the abortive and paralytic-recovered types; and the mean value was higher in the paralytic-residual than in the abortive type.

TABLE 6		
Frequency of Spotty Weakness in Individual Extremities of 221 Children With Poliomyelitis		
Extremity	Number	Per cent
Right arm	55	15
Left arm	67	18
Right leg	122	33
Left leg	125	34
Total Number of Extremities	373	100

The mean value for spinal fluid chloride was 716 milligrams; about 63 per cent of the children had values between 700 and 750 milligrams in each 100 cubic milliliters of spinal fluid.

The mean value for spinal fluid sugar was 63 milligrams; about 87 per cent of the patients had values between 40 and 90 milligrams in each 100 cubic milliliters of spinal fluid.

Routine bacterial cultures of spinal fluid uniformly showed no growth.

Treatment

Treatment during the acute phase was by various means. During the period prior to the re-introduction of hot packs by Sister Kenny, splints, codeine and aspirin, convalescent serum, x-ray therapy to the spinal cord, purgation of the intestinal tract with magnesium sulfate and enemas, and other methods were in vogue. During the period of hot pack applications, some of the children received curare, prostigmine, codeine and aspirin, and other symptomatic measures. Roughly, the entire group was divided into two sub-groups: those treated with and those not treated with Kenny packs. Those treated with packs received the Kenny technic with a few modifications. Table 7 shows the divisions of types into methods of treatment. A total of 194 children received the modified Kenny and a total of 184 children received the non-Kenny regimen.

Table 8 compares the result of treatment. "Results of treatment" refers to findings at the last follow-up examination. No attempt was made to divide them into mild, moderate, and severe residuals. It is interesting to note that more children treated with packs had residual muscle weakness than those who were not treated with packs. An erroneous conclusion can be drawn and should be guarded against because of the relatively shorter follow-up period for those who received the modified Kenny regimen. About 40 per cent of those receiving the modified Kenny regimen have been followed for a period less

than two years. Fair and presumptive statements which can be made from the data follow.

Between 30 and 40 per cent of the children who had evidences of muscle weakness at the time of admission eventually recovered without residuals regardless of how they were treated. Children with bulbar and encephalitic types, if they survived, recovered without residuals. Hot packs were not curative, and were not necessarily superior nor inferior to other methods. It was a clinical impression that packs, more than any other measure, afforded comfort to the children, especially those with muscle tightness or spasm associated with pain. Furthermore, the children received greater attention during treatment with packs than with other measures. The data suggest that one should not blindly continue pack therapy for prolonged periods in those children

TABLE 7
Division of Types of Poliomyelitis Into Methods of Treatment

Type	Modified Kenny Number of Children	Non-Kenny Number of Children
Abortive	51	53
Spinal	121	83
Bulbar	10	21
Bulbospinal	11	19
Encephalitic	1	8
Total	194	184

with crippling paralyses, hoping for recovery, and denying them orthopedic management.

Deaths

There were 21 deaths or a mortality rate of 5.6 per cent. This mortality rate is significant only in reference to the 378 children studied. It indicates nothing more. If more abortive and spinal types had been admitted to this hospital, the mortality rate would have been much lower. Only one death occurred in a nonbulbar case, the cause of death being intercurrent bronchopneumonia. The other 20 who died were of the bulbar and bulbospinal types. There were 61 children with bulbar and bulbospinal types; one-third of those children died.

Summary

The records of 378 children with poliomyelitis seen during a ten-year period were studied. About three-fifths of the children were boys. The disease was relatively rare in infants less than a year of age. The highest incidence was among children between 4 and 5.9 years of age. August was the month in which the incidence of the disease was at its peak. Most of the children developed their disease during the period from June through November. Most of the children had no

known contact with others with the disease. The incidence of operations and wounds immediately preceding the onset of their disease was low. The most common symptoms and findings were fever, stiff-neck, headache, muscular aches and pains, vomiting, weak legs and changes in gait, tiredness, positive Kernig's sign, anorexia, pharyngeal injection, muscle tightness or spasm, and nausea. Muscle weakness occurred two times more fre-

TABLE 8
Results of Treatment: A Comparison Between the Modified Kenny and Non-Kenny Methods

Type	Treatment			
	Modified Kenny		Non-Kenny	
	Number of Children	%	Number of Children	%
Spinal (total)	121		83	
Recovered.....	36	30	33	40
Residuals.....	85	70	49	59
Died.....	0	0	1	1
Bulbar (total).....	10		21	
Recovered.....	5	50	14	67
Residuals.....	0	0	0	0
Died.....	5	50	7	33
Bulbospinal (total).....	11		19	
Recovered.....	5	45	3	16
Residuals.....	5	45	9	48
Died.....	1	10	7	37
Encephalitic (total).....	1		8	
Recovered.....	1	100	8	100
Residuals.....	0	0	0	0
Died.....	0	0	0	0

quently in the legs than in the arms. Blood hemoglobin and erythrocyte values had a tendency toward normal; leukocyte values had a tendency toward slight elevation. Urinary findings were insignificant. Spinal fluid leukocyte and protein values were usually elevated; sugar and chloride values were usually normal. In general, differences in mean values of laboratory observations did not indicate any significant correlation between laboratory findings and severity of illness. The use of hot packs did not appreciably lower the incidence of residual muscle weakness; between 30 and 40 per cent of those with muscle weakness detected at the time of admission recovered without residuals regardless of the method of treatment employed. There were 21 deaths in this group; bulbar and bulbospinal types of the disease accounted for 20 of these deaths.

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EARLY RECOGNITION AND TREATMENT OF SOME HIP JOINT OSTEOCHONDRAL DEFORMITIES

James W. Graham, M.D., Sioux City

Osteochondral deformities involving the hip joint were known to the ancients, although the history of treatment for congenital dislocation of the hip dates from Dupuytren's pathologic anatomy report in 1826. A. T. Legge of Boston in 1909 first described an obscure affection of the hip under the name of osteochondritis deformans juvenilis (Perthes' disease).

Some of the conditions influencing osteochondral surface development in the growing child at the hip joint are congenital dislocation, preslipping stage and subluxation; coxa vara; Legg-Calvé-Perthes disease; coxa valga due to osteochondromatosis; acute trauma; preslipping epiphysitis; slipped epiphysis and many others that have infection as the causative factor.

There are many factors common to all of these conditions which should aid in the early recognition as well as influence the treatment and recovery. The inadequacy of the blood supply or circulation for the head and neck of the femur greatly complicates the progress of spontaneous recovery or surgical interference, the latter, whether it be by open or closed procedure.

The blood supply for the head of the femur is from three sources: arteries in the ligamentum teres; vessels of the capsule, especially the posterior capsular artery; and the vessels entering the head to the bone marrow. In true congenital dislocation the blood supply through the ligamentum teres is practically nil. The supply through the capsule probably plays the most important role in nourishing the head of the epiphysis. This blood supply may be injured in major or minor trauma, or by surgery on the hip joint. Much can be said about the careful handling of tissues about the hip joint of the growing child. Interference of the blood supply to the epiphysis or head of the femur is the most common cause of aseptic necrosis of the epiphysis or head of the femur. Aseptic necrosis may be defined as early increased density of the femoral head with subsequent fragmentation and loss of substance without early similar changes involving the acetabulum. This pathologic change results also from undue pressure such as would result following closed or open manipulation of the hip joint because of muscle and soft tissue contracture which was not previously released prior to the reduction.

The early diagnosis or at least the recognition of pathology in the hip joint is most vital for the recovery without permanent deformity or disability. The signs of preslipping and subluxation of the congenital hip in the age group one to nine months are as follows: asymmetry of gluteal and inguinal folds, laxity of the hip joint to distal pressure, history of familial congenital dislocations or subluxations, and x-ray evidence of altered position of proximal femur to the pelvis. The treatment of the preslipped stage of congenital dislocation of the hip or subluxation may only require a Putti abduction splint in order to obtain a result that would secure an anatomic formation of the acetabulum, or the recognition of preslip of epiphyseal dislocation could prevent flattening of the head and much unnecessary treatment.

Congenital dislocation, if unrecognized early, causes irreparable damage which may result in the failure of epiphyseal development, as well as anteversion of the head and neck. Slipped epiphysis, if untreated or if treatment is delayed, will result in coxa vara position and distortion of the head and acetabulum. The one case of intracapsular osteochondromatosis has distorted the neck of the femur but caused very little change in the chondral portion of the joint.

Common signs and symptoms of congenital dislocation or true luxation of the hip are: usually healthy; limp or lameness; discomfort noted in anterior thigh or knee; pain in hip region; restricted motion of the hip; and atrophy of soft tissues in thigh and leg. The shortening of the extremity may vary $\frac{3}{4}$ to 2 inches or more. Specific signs and symptoms of congenital dislocations or true luxations are: walking beginning at 13 to 17 months; positive Trendelenburg; waddling gait; unstable gait with limp; pelvic droop; lordosis; and a prominent trochanter.

The treatment of the true congenital luxation has gradually swung to operative reduction or other surgical procedures such as the shelving operation of Chandler. The following authors express the thoughts very clearly. My cases will support their contentions. Dr. Fred Albee believed that treatment of congenital dislocations of the hip should be instituted when diagnosis was made. Dr. Harry N. Sherman of San Francisco was discouraged with the poor results of closed reduction and concluded in 1919 that open surgical treatment should be followed in any of his future cases. A French author, Professor Jacques Leveuf, in January, 1948, before the Academy of Orthopedic Surgeons in Chicago, stated that the point of view in the treatment of congenital dislocations of the hip is completely

changed if one distinguishes the true luxation from the subluxation. He believes that open reduction must become the rule in the treatment of the true luxation.

The signs of Legg-Calvé-Perthes disease (osteochondritis deformans juvenilis) usually appear in a healthy child. Our age group is from 3 to 12 years. There is no fever or very slight elevation

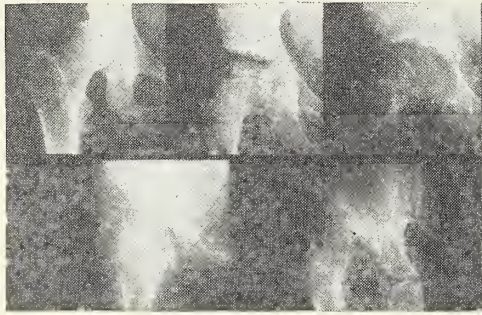


Fig. 1. A. Subluxation. B. Legg-Calvé-Perthes disease. C. Slipped epiphysis. D. Coxa valga osteochondromatosis. E. Congenital dislocation.

of temperature. In the early stage lameness is noted which may not be constant. Motion is restricted because of muscle spasm, particularly in the abductors and rotators. There is pain anterior to thigh and knee. The shortening early is not noticeable or measurable. Soon after the onset of lameness and discomfort a noticeable difference in the circumference of the thighs is discovered.

Maurice M. Pike, before the American Academy of Orthopedic Surgeons in 1948, recommended recumbency for one to four years or even more. Recumbency was accomplished by means of traction to relieve the spasm and braces to maintain recumbency (fixed abduction from lower spine through hips and legs). Hydrotherapy as well as bedside instructions were most beneficial for the child that is recumbent for such a long period of time.

The traction, abduction braces, hydrotherapy and grade school instruction (for credits) can be carried out in the home, even the "farm" home, provided the parents understand the importance of prolonged rest. Frequently electricity is available but running water is not. Even so, a galvanized tank with electric tank heater will afford hydrotherapy. The telephone and radio are being used for instruction of an Iowa farm boy now under treatment.

The signs and symptoms of preslipped epiphysitis common in our cases are pain anterior distal thigh, lameness, possibly low grade fever, and

negative AP x-ray; the lateral may show early sclerosis or mild inferior slip, however.

The acute slipped epiphysis varied in age from 11 to 15 years. Some experienced immediate disability from minor injuries—pain in the hip area and pain in the knee region. Some continued weight bearing, and the x-ray film was positive evidence. Three of our cases were bilateral dislocations.

The chronic slipped epiphyses have more deforming signs and symptoms than either the pre-slip or acute. The limp is severe; internal hip motion is restricted; pain in anterior distal thigh and knee; Trendelenburg is negative; the trochanter rests above Nelaton's line when weight is borne; and lumbar lordosis is not marked but usually noticeable.

Treatment instituted early for an acute slipped epiphysis, even if anatomic reduction is accomplished and maintained until closure of the epiphyseal line occurs, does not always insure an anatomic head of the femur at 7, 9 or 30 years later. Early treatment insures a far better functioning hip joint than the neglected cases which may require intracapsular or extracapsular osteotomies.

The purpose of the paper is not to describe details of surgical procedures but to present reasons for early recognition of hip joint pathology in the infant and adolescent, and by briefed case histories to call attention to operative procedures and demonstrate comparative results. Four case histories follow.

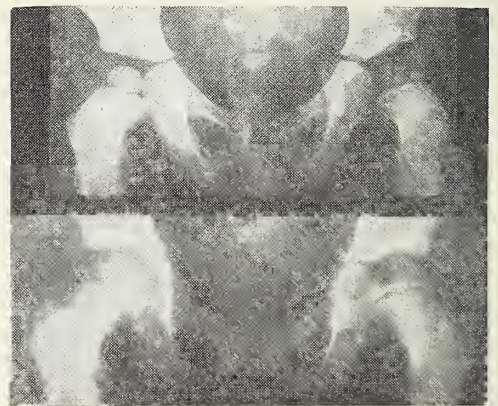


Fig. 2. A. Note subluxation. B. Anteversion improved.

Case Histories

L.G., female, age 1½ years, came to the office on Oct. 8, 1934. (See Fig. 1.) She had a history of limp when walking, and had not walked until 16 months of age. She appeared to be a healthy, well developed female child.

Local examination showed limp when walking; gait unsteady; pelvic droop on left; positive Trendelenburg; trochanter above Nelaton's line (prominent); and shortening of $\frac{3}{4}$ inch.

Diagnosis, clinical and x-ray, was unilateral congenital dislocation of the left hip.

Treatment included closed reduction, maintained first in frog position and bilateral spica. Use of plasters continued through eight months. At twenty-six months of age a caliper brace was applied, being worn for fourteen months. On

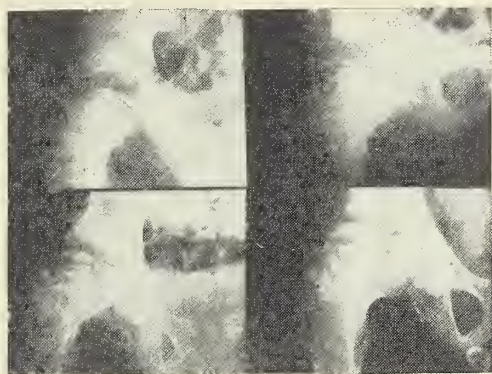


Fig. 3. A and B. Progress films previous to surgery. C. and D. Progress films post surgery.

July 2, 1940, there was physiologic function. (At 15 years of age mother advised there was no disability and no asymmetry of extremities.)

G.E., male, age 8 years, was examined on May 15, 1946. (See fig. 3.) History brought out the onset of a painful limp one year previously. One month before the onset of the limp, he had fallen on his right hip. There was no immediate disability. He had received numerous chiropractic treatments.

The general physical examination showed a healthy male child. Laboratory studies were normal. Local examination produced no evidence of pain when walking although there was a severe right limp. There was visible evidence of atrophy in the lower extremity. Circumference of right thigh was seven-eighths inch less than the left. The contracture position of the hip (anterior) was 15 degrees. Pain was present in the anterior distal thigh. No acute signs were present when the patient was examined.

X-ray studies revealed flattening and widening of the head and acetabulum.

Diagnosis was Legg-Calvé-Perthes disease, advanced, right hip.

Treatment included traction, bed rest and hip spica at varying intervals for six months. Fur-

ther absorption and flattening of the head was noted on x-ray. Eighteen months after onset of symptoms an arthrotomy of the hip joint was performed. Epiphysis opened through $\frac{1}{4}$ to $\frac{3}{8}$ inch window anterior lateral surface head proximal to epiphyseal plate. The capitol area was aspirated with suction. It was possible to gently elevate the cartilaginous surface head of femur. This was secured with a scaffold of cancellous bone. The posterior inferior capsule was not disturbed. Fixation in plaster cast (spica) was continued for ten months subsequent to surgery with intervals of bed rest, bucks traction and hydrotherapy. At this time the patient is up and about with brace and crutches.

L.L., male, age 12 years, was examined on April 24, 1946. He had a history of untreated preslipped epiphyseal signs of one year's duration. There had been sudden onset and total disability. Ten days previous to the first examination he had fallen from a high board fence, twisting the left lower extremity.

Physical examination showed typical hypopituitary syndrome with active and passive restriction of motion and shortening of the left lower extremity. X-ray showed mild epiphyseal dislocation, left.

Twelve days subsequent to acute trauma, skeletal traction (Wynan's type) was performed for eleven days followed by surgery and open reduction, secured with three flange Smith Peterson nails, and cancellous bone was packed across epiphyseal plate. There was ambulatory hip spica for five weeks and weight bearing with crutches for an additional sixty days. Eleven months subsequent to surgery examination showed weight maintained without increase, and no disability clinically or physically. X-ray films two years later revealed anatomic position of epiphysis and neck, nail in position. He denied any discomfort and has been playing football and basketball.



Fig. 4. A. Fixation Smith Peterson Nail six months previously. Epiphysis practically closed. B. AP view same. Anatomic position; epiphysis closed. Good nutrition of head.

(Note: Lateral x-ray right hip suggests early epiphyseal slip but there have been no symptoms or signs of disability to date.)

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SOME PROBLEMS IN REFRACTION

Lincoln F. Steffens, M.D., Dubuque

By actual count, 47.4 per cent of the calls to my office during 1946 were made primarily for the purpose of obtaining spectacles. This included calls made for examination of lenses with a lensometer after the spectacles had been received from the optician. It did not include refractions done during the course of physical examinations for pilots' licenses, government service, or before dismissal of persons who had been treated for injury or disease.

Persons present themselves for refraction and desire spectacles for the following reasons:

1. To improve their vision.
2. To relieve symptoms of eyestrain.
3. To protect their eyes against physical and chemical agents.
4. To hide cosmetic blemishes or to improve their appearance.
5. For no reason other than that they have been told that they need spectacles—why, they do not know, or they have forgotten.

Our first problem is to obtain a good history of the patient's complaints. Sometimes this takes more patience and time than the actual refraction, but it often saves us from doing a refraction when we should be referring the patient to a rhinologist, neurologist, internist, or plotting the visual fields in search of a defect due to neurologic disease or glaucoma. We become physicians before we become ophthalmologists, and we are obligated to think of our patients as great coordinated systems of which the eyes are only a part—not as a pair of eyes with a body attached to them. When signs and symptoms of general disease are detected by us, we are obligated to refer the patient to other physicians who we think can treat them best.

After obtaining a history and examining the eyes inside and out, we decide whether refraction is needed. The next problem is how much cyclo-

plegia, if any, is needed. I believe that all patients under 41 years of age should have their refractive errors measured with the aid of a cycloplegic, and those over 40 years of age often need a cycloplegic. I have never used a cycloplegic in refracting the eyes of any patient over 50 years of age; for them I use a mydriatic. For persons under the age of 12 years, I routinely use atropine sulfate as a cycloplegic. In dealing with children who are in the second grade, 7 years old or younger, I have the parents instill 1 per cent atropine sulfate ointment in the conjunctival sac three times a day for three days and in the morning of the day that they return to my office. Seldom—not more than once a year—do severe generalized symptoms due to atropine poisoning occur.

I must admit that atropine cycloplegia is a great handicap to a school child and a poor advertisement for the ophthalmologist because the child is prevented from reading for as long as a week or ten days. For this reason, when the child is going to school, I instill in the conjunctival sac 1 drop of a 4 per cent solution of cocaine, followed in two to three minutes by 2 drops of a ½ per cent solution of scopolamine. The installation of scopolamine is repeated in ten minutes. One hour after the first instillation of scopolamine, I begin the refraction.

Cocaine increases the permeability of the cornea. Scopolamine is a powerful mydriatic and cycloplegic, and its cycloplegic effects usually disappear in three days. I believe it is as satisfactory as atropine in its cycloplegic effect, and certainly patients recover from its effects more rapidly. I have not had a toxic reaction from scopolamine. I use it for persons up to 16 years of age, and occasionally up to 19 years of age.

If it is not convenient for children to return in three days, or if I doubt that the atropine ointment will be instilled properly and as directed, I instill 4 per cent cocaine solution in the conjunctival sac and follow it with two instillations of a 1 per cent solution of atropine sulfate, and recheck one hour later. For patients over 20 years of age, I use a 2 per cent solution of homatropine combined with a 2 per cent cocaine for the first instillation, followed in ten minutes by a 2 per cent homatropine solution.

The inconvenience of cycloplegia to adults is often considerable. We can do a great service to patients who drive a long distance to see us if we complete their examination in one day. This we can do if we will very carefully carry out a manifest refraction and examine their muscles before the cycloplegia is instilled. I ascertain

the greatest strength of convex or the weakest concave lenses that can be used with both eyes open and still allow a visual acuity of 20/20. If cycloplegia reveals more than a diopter of hyperopia than I found during the manifest refraction, or if I have overcorrected the myopia, I arbitrarily prescribe a stronger hyperopic correction, or a weaker myopic correction, than I found at the manifest examination.

The problem of what to do when a patient refuses to have a cycloplegia instilled in the eyes is easily solved, no matter what the reasons are for refusal. The reasons why a cycloplegia should be used should be quickly stated. The objections should be heeded sympathetically. If consent is not quickly and freely given, refraction should be done and the examination completed without a cycloplegia. Really, not very many persons refuse to be properly examined, either in our practice, in the internists' practice, or any other type of practice.

In passing let me say something about equipment. The simpler it is, the better. I do not like to place or hide a patient back of a refractor and twist the dials as if I were trying to find the combination of a safe. I like the trial frame much better. The patient can see the examiner and talk freely. Furthermore, when it comes to fitting bifocals, a trial frame is almost essential. I mention the ophthalmometer only to condemn it. As a clinical instrument it is of little value because it measures the amount of astigmatism, and its axis produced by the cornea, whereas we are interested in the production of these factors by the cornea and the lens combined; the values are entirely different except in aphakia.

The mechanics of refraction may not be so important as our manner of addressing the patient and how we conduct ourselves while doing the refraction. The day after I have had my own eyes refracted I have a great deal more sympathy for patients who are slow in their answers. A hurried, scolded, humiliated patient will not give consistent answers, and if he returns with a pair of spectacles that are not satisfactory, the examiner has only himself to blame. Even if the answers given by the patient are correct and the spectacles are the proper ones, the patient will wonder if he performed properly while so upset and hurried, and he may feel that he should go elsewhere and be re-examined. He probably will also take his children and friends with him.

The cross cylinder is a very valuable instrument for determining the axis and the strength of a cylinder. It is really a sphere combined with a cylinder of the opposite sign. The cylinder is

twice the strength of the sphere. It is very important that, in determining the strength of the cylinder, we do not forget about the sphere. By itself the crossed cylinder does not indicate to us whether the power of the system of lenses should be increased in one meridian or decreased in the meridian at right angles to it. It may mean that both changes should be made. We can ascertain which change should be made by crossing through with cylinders, and, as often as not, we change the strength of both the sphere and the cylinder.

The ocular muscles play an important part in causing eye strain, and whether there are phorias or tropias should be ascertained by the usual methods. It is important that the muscle balance at 33 centimeters be investigated. Exophoria of a high degree is not important if the patient has a close near point of convergence. Esophoria at a near point, when the patient complains of symptoms while reading or doing close work, demands attention. The treatment of phorias and tropias is not a subject for discussion here, except to point out that their neglect or improper treatment causes us considerable trouble at times. I do not hesitate to prescribe prisms when they are indicated.

There is no rule that one can follow in prescribing correcting lenses so that the majority of patients will be comfortable. One must consider the symptoms, the presence or absence of phorias, and the patient's occupation, before lenses can be prescribed. The power of accommodation and the patient's physical and mental condition are important factors.

If the chief complaint is of poor vision, and if the vision can be improved by spectacles, then I prescribe spectacles. We must be careful when we measure the visual acuity of children. It is amazing how a trial frame with no lenses, or plano lenses, will improve the visual acuity of some children. The same is true of some adults.

It has been my experience that people who have astigmatism against the rule—even in small amounts—obtain considerable relief from its correction.

Persons with amblyopia exanopsia sometimes like to have the full correction in the amblyopic eye and sometimes they do not. It has been my observation that most of those who see four dots with Worth's four-dot test get along well with a correction of the amblyopic eye.

Much has been written about spherical equivalents of astigmatic lenses and their use for persons with high degree of astigmatism. I can see no reason for using a spherical equivalent until

the patient has had a chance to try the full astigmatic correction. Certainly he can see better with the full correction. I do not resort to spherical equivalents until the patient has demonstrated that he is not comfortable otherwise.

Bifocal lenses are very convenient for most people. They must be placed correctly before the eyes, and the strength of the portion of the lens through which a person reads or does close work must be for the proper distance. Bifocals in which the focal length of the lower segment is 13 to 16 inches are unsatisfactory for carpenters or bandsaw operators. The focal length must be 20 to 22 inches if these men are to be comfortable while they work. Some people do not seem to wear bifocals of any strength with comfort, and they have to have two pairs of spectacles. One has to learn to wear bifocal lenses, and some people will not discipline themselves long enough to learn to wear them. These are the people who are often very nervous, and if they didn't have the bifocals to complain about they would be complaining about their shoes or their false teeth.

I never urge anyone to get bifocal lenses. I merely demonstrate to them the advantages and disadvantages of bifocals. It is very important to be sure that the patients understand that the lower segment of the usual bifocal is for one particular distance. It is much easier to warn them in advance than to try to soothe them after the lenses have been purchased at a high price.

Trifocal lenses are of value to musicians, merchants, draftsmen, auditors, and some housewives.

Occupational lenses may have their segment for close work at the upper part of the lens; these are advantageous for otorhinolaryngologists, plasterers, and painters.

The question of how often a person should have his eyes examined is frequently asked. We hear insurance men and members of the armed services talk about annual examinations. I think everyone should have an annual physical examination, and the ophthalmologic examination should be a part of it. However, most people are not enough interested in their own health to have a complete examination. Since they are often interested only in their eyes, they should have a yearly ophthalmologic examination. If a person has symptoms related to his eyes or feet, the offending part of his anatomy should be examined immediately.

Patients say (I know that patients unintentionally misquote) that they have been told that their glasses need never be changed after they have reached the age when presbyopia does not increase. They also state, at times, that Doctor So and So said they had cataracts, and that nothing

need be done or could be done until their vision became so poor that they could not read or do their work. It is a mistake to say such things to patients. They give the patient the idea that any further decrease in their vision cannot be corrected by lenses, so that he waits needlessly sometimes for a long time, before consulting the physician. Even worse than the unnecessary waiting is the fact that some patients wait so long that by the time a physician sees them their vision has been destroyed by glaucoma.

Finally, there is the problem of the dissatisfied patient. If a careful history and proper correlation of the history with the physical signs have not prevented us from having a dissatisfied patient, and I suspect we all have them, then we must check his new spectacles very carefully.

A lensometer, or similar instrument, is a very valuable piece of equipment. With it we can ascertain the prescription for the patient's old lenses, and thereby avoid prescribing unnecessary new lenses. It also enables us to detect opticians' errors in grinding the new lenses which we prescribed. It will detect and measure prisms. It will also enable us to locate the optical centers of the lenses, and thereby to compare the distance between the optical centers and the interpupillary distance. All of these things must be checked when a patient returns with his lenses.

One should always be on the lookout for the patient who will not tolerate a change in the base curve of his lenses. I have had patients who became very uncomfortable when the base curve of their new lenses had been changed from that of their previous lenses. The base curve can be found with a Geneva lens measure. Lenses of many strengths can be ground with the same base curve.

It is very important that we disarm a dissatisfied patient by a careful search for the cause of his trouble by repeating the examination and correcting any errors, even if they are our own mistakes. The customer is always right. Just by being patient and listening to complaints we are more often than not able to find the difficulty.

The more our patients talk the more we learn about them and the more often we will realize that their headaches, black spots and photophobia are a manifestation of a psychosomatic disorder. We will fail in helping many of these people by prescribing corrections for their small refractive errors. One must proceed cautiously when a patient confronts him with a handbagful of spectacles that are all unsatisfactory, each pair having been prescribed by a different doctor. These patients usually need psychotherapy.

Discussion

Elmer P. Weih, M.D., Clinton: I have enjoyed reading Doctor Steffens' excellent paper. Taking the time and using patience to get a good history of the patient's complaints is very important. It gives us an insight of the patient's viewpoint. I think it best that we do a refraction on all who give us a history of eye strain, even though it will be necessary to tell many people that they do not need glasses. They will then be more satisfied and follow your recommendations for other eye treatment or examinations. I am in accord with the author's remarks about cycloplegics. I do not like to use cocaine prior to refraction because I have seen it cause stippling of the cornea and interfere with successful refraction. If you wish to increase the permeability of the cornea, you can have your mydriatic dissolved in zephiran 1 to 10,000. Zephiran will prevent moulds from growing in your solutions and it also will hasten absorption of the drug you use.

Our patients are told why we wish to use medicine in their eyes—that we can examine their eyes without its use but we can do a better job by using it and that its use means more work for the examiner at no additional expense to them. I cannot remember a patient refusing its use.

I have used the trial frame and also refractors. My preference is for the modern refractor and I am certain I would be much handicapped if I had to refract without it. I cannot agree with the statement that "a trial frame is almost essential for bifocals." I am certain I fit my patients who need bifocals more accurately with the phoropter than I would with a trial frame. The phoropter saves one much time, and having a secretary take down one's findings will save more time. I consider the modern phoropter the most important part of all my optical equipment and the best investment I have ever made.

I use the cross cylinders all the time, have the plus and minus twenty-fives on the phoropter and use the other strengths in a ring with handle so I can turn them in front of the phoropter. I like the Lancaster Reganastigmatic dial and use it on every patient, assuming that they all have astigmatism until I have definitely proved they do not.

The ocular muscles should be examined in all refractive cases and prisms prescribed when necessary.

It is surprising the number of children who are sent to the oculist by various agencies because these youngsters are thought to have poor vision. We should be patient with them and explain to them what it is all about, then have the assistant point out the individual letters. These children with supposedly poor vision will often read many more letters and frequently not need glasses at all, their apparently poor vision being due to lack of attention and desire to read accurately. The author's remarks concerning bifocals are very much to the point and need no amplifying. We should examine the refraction on all our elderly patients as often

as they will let us. Then we will frequently pick up the early stages of oncoming serious diseases.

Yes, we always will have our dissatisfied patients. However, if we are tolerant with them, try and see their viewpoint, then do a complete new refraction we will find our mistakes or be able to convince the patient we have done our best.

CONTACT LENSES

Placidus J. Leinfelder, M.D., Iowa City*

An evaluation of the status of contact lenses in ophthalmic practice becomes necessary because we must know the facts concerning the subject upon which the public has been so much misinformed by the numerous articles that have appeared in the popular magazines. In many instances these discussions, by extolling the merits of "invisible glasses" and ignoring the many disadvantages, give an erroneous impression concerning the usefulness of these lenses. The indiscriminate fitting of contact lenses to all who ask for them is resulting in increasing numbers of dissatisfied owners who are unable to wear their lenses and who adversely influence the patients in whom there are definite therapeutic indications for prescribing them. The ophthalmologist should be fully cognizant of the advantages and disadvantages of contact lenses and although he may not prescribe them himself, he should be able to advise his patients correctly in this matter. Furthermore, he must be able to interpret and treat the purely ophthalmic problems which arise in those who wear contact lenses.

The indications for wearing contact lenses may be considered under four headings, namely; optical, occupational, medical, and cosmetic. Lenses are fitted for optical reasons when satisfactory visual acuity cannot be obtained by any other means. This situation exists in conical cornea, certain type of irregular astigmatism induced by corneal scars, in unilateral aphakia, and in some patients with very high refractive errors. Patients in this group usually are satisfied wearers of contact lenses because of the positive benefit which is derived from them. Even a few hours of visual improvement each day is exceedingly helpful and greatly appreciated by these patients, and the fact that arrest in progress of conical cornea can be expected is a strong stimulus for the wearing of the lenses.

In some occupations and professions the use of contact lenses is desirable as a means of protecting the eyes or to enable the patient to see

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while doing his work. Certain factory workers and athletes who are exposed to possible ocular injury from broken glasses are handicapped by conventional lenses and gain great security by the use of contact lenses. Swimmers, yachtsmen, and sailors find contact lenses a decided advantage because they can retain good visual acuity even though they may be exposed to mist, spray, and water. Opera singers and actors cannot wear their ordinary correction in the performance of their various roles but with contact lenses normal visual acuity can be gained. In these patients satisfaction may be expected if properly fitted contact lenses are provided.

Only a few medical indications for contact lens have been suggested and the demands for fitting these patients is not very great. Contact lenses have been suggested for the prevention and treatment of keratitis e lagophthalamo and neuroparalytic keratitis, but the wisdom of this procedure is questionable for it appears likely that contact lenses could do more harm than good.

The largest group of patients who desire contact lenses is composed of those who wish them for cosmetic reasons. This alone is not a justification for prescribing them, for in this group many neurotics are encountered who cannot possibly wear contact lenses with comfort. Every available means is used to dissuade these patients, for unless the hypersensitive are eliminated by pointing out the disadvantages they will plague the ophthalmologist with their never ending troubles with irritation, fogging, buffer solutions, and inadequate wearing time. If a "nervous" patient persists in his desire to have contact lenses, he is told that lenses will be provided but that no assurance is given that they can be worn. The patient buys the lenses at his own risk and this he must understand clearly. If the physician is convinced that the patient is not neurotic and, if after complete explanation of the nuisances associated with contact lenses there remains a strong desire for the lenses, one may proceed with relative certainty, for when there is sufficient desire as well as emotional stability, contact lenses can be very serviceable as a cosmetic aid.

Several types of contact lenses are obtainable. The most popular and perhaps most generally satisfactory is the molded type. The lenses that are not molded are fitted to the eye from a trial set that may consist of as many as two hundred lenses. Arguments concerning the fitting of the scleral segment, at present, seem more academic than practical. There are too many variables in this subject to allow anyone to state emphatically that one type of lens is better than another. Satis-

factory results as well as difficulties are encountered with all types of lenses, and it is my opinion that psychologic reactions most often are the determining factor in the ultimate success or failure of contact lenses.

There is no consistency in the wearing time, for some patients are able to tolerate them continuously for four to eight hours without evidence of discomfort or visual impairment while others never seem to be able to pass one and a half to two hours without observing halos and fogging. Patients in the latter group can, by removing the lenses and changing the solution at frequent intervals, considerably prolong the wearing time. Occasionally a patient is observed who can wear the lens day and night for several days at a time without apparent difficulty. This practice should be discouraged, for it invariably leads to the development of a superficial keratitis. Patients should be instructed that when tolerance is gained, the lenses should be removed for one hour after each four hours of wearing. If a keratitis develops, healing occurs promptly if the lenses are not worn for a few days.

Conclusions

Contact lenses are indicated for the improvement of vision in patients with corneal disease which precludes normal visual acuity with ordinary lenses. They also are used successfully by those whose vision is poor but who cannot use conventional glasses in their work or profession. The use of contact lenses for cosmetic reasons alone is discouraged as a routine practice because nervous stability is very frequently encountered. Psychologic factors determine the failure or success in the wearing of contact lenses.

Discussion

Oral L. Thorburn, M.D., Ames: Dr. Leinfelder has given us very clear and practical indications for the fitting of contact lenses. He has pointed out that disregarding these indications may greatly neutralize their usefulness. Because of the irritation associated with wearing these lenses, they are prone to be a source of trouble to the ophthalmologist, especially when used on neurotic patients who want them for cosmetic reasons only. This limits very decidedly the number of patients who need and can use them successfully.

I have had no experience in fitting contact lenses. There has not been enough demand for them in my practice to justify the added training and equipment needed to fit them properly. In a fairly active general ophthalmic and refraction practice, I can think of only two cases in the past year who qualified according to Dr. Leinfelder's indications, and these two cases were athletes. The incidence of need

for contact lenses is not great, and I believe the demand could best be met by a very few ophthalmologists well trained and equipped to fit them. We must all know when they are needed, however, and so inform the public.

**MERCY HOSPITAL
CLINICOPATHOLOGIC
CONFERENCE**

June 4, 1948

F. C. Coleman, M.D.
John Dooly, M.D.
F. D. Winter, M.D.
Des Moines, Iowa

Clinical History

W. S., white male, age 52, entered the hospital because of jaundice.

Present Illness: Three weeks before admission the patient had a bad cold which lasted for approximately three days. As he was getting over the cold he noticed that his skin was becoming yellow. Associated with the onset of jaundice were repeated episodes of chills and fever but no pain. The jaundice became progressively more intense up until admission to the hospital. Prior to the onset of the jaundice his appetite had been good and his bowels regular. After the jaundice appeared his stools were light in color, he had gas on his stomach, and fatty foods caused marked indigestion.

Three months prior to admittance suprapubic prostatectomy was done to relieve urinary obstruction caused by hyperplasia of the prostate gland. The patient was given one unit of plasma postoperatively and the postoperative course was uneventful. The pathologist's report stated that hyperplasia of the prostate gland was present.

Physical Examination: The patient on admission was an intensely icteric male who was alert and oriented. The head and neck, heart and lungs, and extremities were normal. The abdomen was slightly distended. Slight tenderness was elicited in the lower left quadrant of the abdomen. No organs or masses were palpable. No distended veins were noted over the abdominal wall. Rectal examination was negative.

The temperature was 98.6 F., the pulse 90, and the respirations 22. The blood pressure was 128 systolic, 84 diastolic.

Laboratory Data: On admittance the red blood count was 3,700,000, the hemoglobin 79 per cent, and the white blood count 5,500. The serum protein was 5.12 gm. per cent, and the cephalin

flocculation test was four plus in twenty-four hours. The prothrombin time was 35 per cent of normal (Quick method), which progressively rose to 71 per cent under vitamin K therapy. An immediate or direct van den Bergh reaction was present; the quantitative serum bilirubin was 22 mg. per cent. The icteric index was 117 units. The stool specimen contained normal amounts of urobilinogen, as did the urine. Cholecystograms revealed a nonfunctioning gallbladder. Ten days after admittance the icteric index rose to 144, and the prothrombin time fell from 71 per cent to 37 per cent.

Clinical Course: After admission the patient received large doses of vitamin K. He also received 30,000 units of penicillin every three hours. The temperature ranged between 97 and 100 F. One week after admission the patient's abdomen became markedly distended and at this time the liver was palpable 2 centimeters below the costal margin. The icteric index was now 144 units and the prothrombin level had fallen to 37 per cent of normal (Quick method). Two days later the patient vomited approximately 1500 cubic centimeters of dark reddish brown mate-

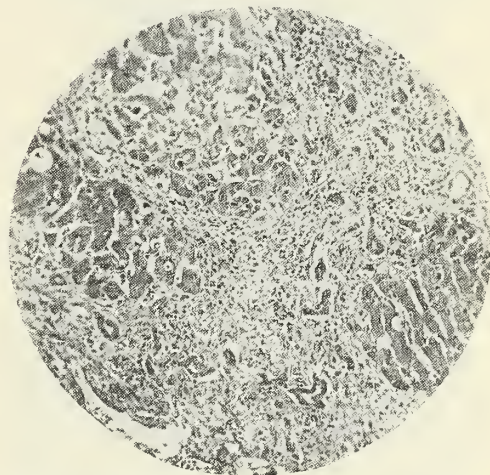


Fig. 1. Portal cirrhosis of the liver following homologous serum jaundice (x100).

rial. A transfusion was given. The vomiting continued at intervals and the vomitus remained reddish brown. Wangensteen suction was started. On the eleventh hospital day the blood pressure dropped to 70 systolic, 40 diastolic, despite continuous supportive therapy. The respirations became slow and labored and the patient expired.

Discussion

Dr. Dooly: In a discussion of this case of progressive painless jaundice, it is interesting to note that three months prior to this admittance

the patient underwent a suprapubic prostatectomy for hyperplasia of the prostate gland. From the standpoint of differential diagnosis of this progressive painless jaundice, I believe that we may, from the pathologist's report on the sections of the prostate, rule out blood born metastases to the liver from a carcinomatous prostate.

It is brought to mind because of the similarity of this case with one which recently came to autopsy that occasionally an elderly patient with a common duct stone exhibits severe painless jaundice. An obstructive type of jaundice must therefore be considered. X-rays of the gallblad-

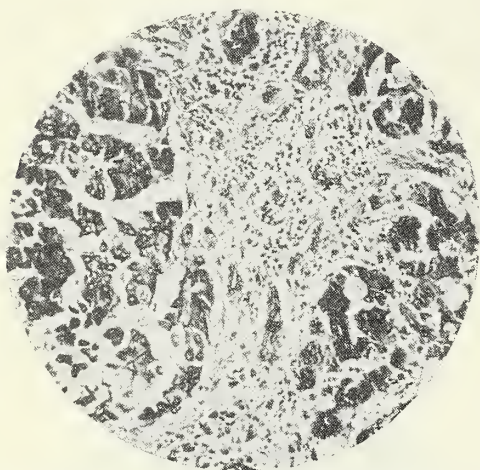


Fig. 2. Higher power view of figure 1 showing periportal connective tissue and new bile duct formation (x180).

der after oral ingestion of dye were negative for calculi. In this type of case the jaundice is usually chronic; there is also distinct variation in the intensity of the jaundice. These factors rule against the diagnosis of common duct stone.

Carcinoma of the pancreas producing an obstructive type of jaundice is to be definitely considered but the acuteness of onset, the absence of weight loss, weakness, anorexia, and the presence of urobilinogen in the feces and urine tend to rule against pancreatic carcinoma.

Portal cirrhosis must be definitely thought of, even though there is a history of adequate dietary intake and none of chronic alcoholism. Hematemesis, palpable liver, positive cephalin flocculation test, lowered prothrombin time, and lowered serum protein strongly favor the diagnosis of portal cirrhosis. The cephalin flocculation test, however, does not usually give a four plus reaction.

Liver abscess is another possibility, but there is no history of diarrhea.

The most striking thing to me is the notation in the "Present Illness" of the patient receiving

a unit of plasma three months ago. This case definitely falls into the incubation period of homologous serum jaundice, which is usually from two to four months. The history of receiving plasma, the insidious onset of the patient's illness, the absence of high fever and abdominal pain, plus the evidence of acute liver failure, lead me strongly to consider homologous serum jaundice.

I propose homologous serum jaundice as the diagnosis. The terminal hematemesis is in all likelihood due to the lowered prothrombin content of the blood.

Dr. Winter: The body was that of a white male appearing the stated age which measured 5 feet 11 inches in length and weighed approximately 210 pounds. The skin was markedly icteric and multiple petechial hemorrhages covered each thigh. The peritoneal cavity contained 2,000 cubic centimeters of icteric serous fluid.

The liver weighed 1,370 gm. and was firmer than normal. Its outer surface was nodular and yellowish green. These nodules averaged 2 to 3 mm. in diameter. The cut surface was nodular and yellowish green. The bile ducts were patent. Microscopically, much of the liver tissue was replaced by bands of delicate fibrous tissue within which multiplication of the peribiliary bile ducts was present. The nests of liver cells remaining were markedly distorted with cloudy swelling and coagulation necrosis present. The reticulo-endothelial cells were laden with phagocytized fragments.

The heart weighed 320 gm. Mild right ventricular dilatation was present. The right lung weighed 420 gm. and the left lung weighed 400 gm. Their outer surfaces were slightly icteric. The spleen weighed 200 gm. The capsule was tense and the cut surface was a dark bluish red. The pancreas was normal. The right kidney weighed 220 gm. and numerous small retention cysts were present on the outer surface. The left kidney weighed 400 gm. and two large retention cysts were present, the larger measuring 6.5 cm. in diameter. The prostate gland was surgically absent. The gastro-intestinal tract was filled with coffee ground fluid. The lower one-third of the esophagus contained large dilated veins. Multiple yellowish grey points were present over the mucosa measuring 3 mm. in diameter through which blood could be expressed.

As Dr. Dooley has concluded, this patient did have homologous serum hepatitis with a portal cirrhosis. The patient lived long enough with his disease for the healing process to begin, hence the picture of cirrhosis. Associated with the cirrhosis which developed was the gross evidence

of portal hypertension in the form of mild splenomegaly, ascites, and varices of the esophagus. Rupture of one of these varicosities with hemorrhage into the gastro-intestinal tract had occurred.

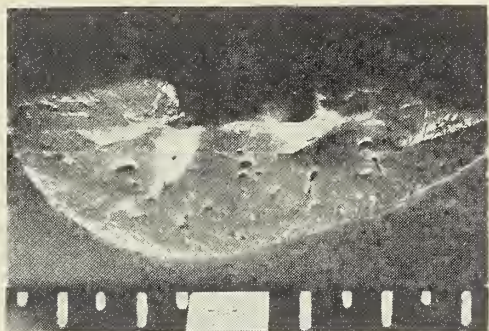


Fig. 3. Cut surface of liver of 52 year old white male dying of homologous serum jaundice. Death was caused by acute liver failure.

During the past twelve months we have had four other cases of homologous serum hepatitis at Mercy Hospital, two of which died. Autopsies were secured on both of them. Both were of the acute type with liver necrosis. Death was due to liver failure. All received blood plasma. Two received blood plasma bearing the same serial number.

The causative agent of homologous serum hepatitis is a virus which is transmitted by infected whole blood or its products or by contaminated syringes. It is more likely to follow plasma administration since plasma is prepared from large pools of blood, thereby increasing the chance of contamination with the virus.

The incubation period of homologous serum hepatitis varies from sixty to two hundred days, and in those who survive a specific immunity exists after the infection.

Dr. Coleman: There are several interesting features about this case. The liver pathology is that of an early portal cirrhosis, although some necrotic areas remain. There has been considerable disagreement as to whether portal cirrhosis ever follows infectious hepatitis or homologous serum jaundice. The periportal scarring, new bile duct formation, and nodular regeneration of liver tissue has been designated by some as "coarsely nodular cirrhosis." Although there is some justification for this separate designation, the distinction is rather fine. The incubation period in this patient was 73 days, and he lived 33 days after the onset of symptoms. The incubation period is well within the average of 60 to 125 days. We must ask the question: Did the cirrhosis develop as a complication of homologous serum jaundice? I believe that it did. Transmission studies have

shown that the virus of homologous serum jaundice is present in the blood stream many days before clinical symptoms appear. It is quite possible that this insidious and stealthy agent may have already begun its work before the patient became acutely ill on March 28. Many patients with infectious hepatitis are never jaundiced or acutely ill, even though liver function tests show marked liver disturbance. Thus this patient's liver may have been damaged before acute symptoms appeared. Experimental work on rats also has shown that cirrhosis may be produced in five weeks by alterations in diet. Although no liver function studies were done when the patient was operated upon in January, the hemoglobin was recorded as 14.8 gm. or 96 per cent and the blood urea nitrogen was 14 mg. per cent. It seems likely that these findings would have been altered and the postoperative course would not have been so uneventful in the presence of a cirrhosis existing at that time.

Another patient 64 years of age was operated on Jan. 13, 1947, which was the day before the patient under discussion was operated. He also received 500 cu. cm. of plasma of the same lot number (G-332038). On March 15, 1947, he had what was thought to be influenza. The last week in March, 1947, he became jaundiced and remained so for six weeks. His liver function studies showed marked liver damage. He made

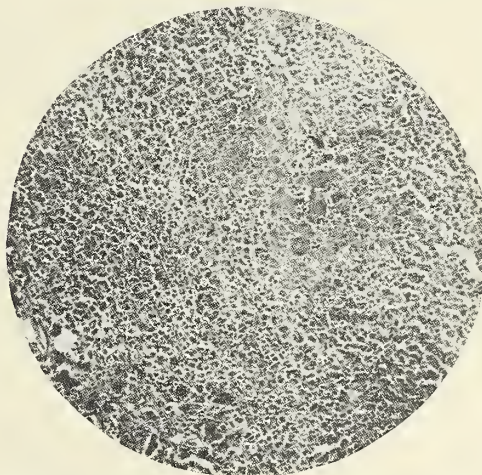


Fig. 4. Microphotograph of section of liver shown in figure 3. There is massive liver necrosis with only scattered collections of viable liver cells (x100).

a complete recovery with no evidence of cirrhosis or other permanent liver damage. Thus, the initial symptoms of both of these patients were referable to the respiratory tract rather than the gastro-intestinal tract.

The incidence of homologous serum jaundice

has been 4 per cent following plasma transfusion. It is much lower following whole blood transfusions, which is to be expected because one infected unit in a batch of pooled plasma contaminates the whole pool. The virus is resistant to freezing temperatures and survives when plasma is dehydrated. The addition of antiseptics to the plasma has also proved ineffective. Immune serum globulin (gamma globulin), when administered to the recipients of plasma transfusions, has also been of no value in preventing the disease. Recently, irradiation of plasma with ultraviolet light has been done and is stated to be effective. This irradiated plasma is now available commercially. Careful screening of donors is necessary, and any donor with a history of jaundice at any time in the past, or a history of blood transfusion or contact with a jaundiced person within the past year, should be rejected.

Dr. Dooley: The treatment of the acute disease consists chiefly of bed rest and dietary measures. Strict bed rest should be enforced until the bromsulfalein retention is normal, as too early ambulation may cause a relapse. A high caloric diet with high protein, and, after the first few days of fatty food intolerance, a diet with high fat content is recommended. A study of dietary regimes shows that patients on a high fat diet gain weight more quickly and steadily and that the bromsulfalein retention returns to normal in a shorter period of time.

For the severely ill or comatose patient, protein should be administered in the form of serum albumin daily. Five per cent glucose should be given intravenously to maintain adequate caloric intake.

WORLD REPORT ON VENEREAL DISEASES STRESSES POSTWAR DANGER

World-wide increases in the venereal diseases reported during wartime continue unabated into the postwar period, according to a report published in a recent issue of the *Journal of Social Hygiene* by the American Social Hygiene Association.

The report, unique for its comprehensive coverage and statistical detail, calls new attention to the virtually universal threat to public health arising from VD prevalence and notes that this threat is intensified by present-day speed and scope of population movements between countries. A special feature is the assembly by continents and countries of all available statistics on venereal disease incidence and prevalence, brought together in a single document for the first time in many years.

Prepared by Thorstein Guthe, M.D., formerly of the Norwegian Health Service, now World Health Organization Medical Officer at Geneva, and John C.

Hume, M.D., of Johns Hopkins University School of Hygiene and Public Health, with the collaboration of other experts, and approved for publication by the U. S. Army and the U. S. Public Health Service, the report asserts that war intensifies venereal disease problems not only during the period of actual conflict, but later as well, adding:

"After the war, venereal diseases still remained a public health problem in all countries, and the impact of military occupation and demobilization has reflected itself in venereal disease rates even higher than those observed during the war."

Among major facts disclosed by the report are:

1. Judged by "conservative" estimates, from two to four million newly acquired cases of syphilis at a minimum occur annually in the world's population and from six to twelve million new cases of gonorrhea. Judged by the same conservative yardstick, syphilis prevalence on a world scale is estimated at certainly no less than 20,000,000.

2. While increases still continue in many parts of the world, a "leveling off" is seen in VD incidence rates in the United States and western Europe.

3. Data gathered on a world scale give new evidence of the close relationship between living standards and social conditions on the one hand and venereal disease prevalence on the other. A study of conditions in the U. S. Zone of Germany, showing a correspondence between the rise in VD incidence and the decline in the weights of civilians, highlights these findings.

The report proposes a whole series of recommendations for national and international action to strengthen efforts for VD control. These include proposals for uniform reporting procedures on a world scale; international use of national control measures; establishment of administrative, scientific and procedural standards, within the framework of a uniform plan to be worked out by the World Health Organization, the International Union against the Venereal Diseases, and other governmental and non-governmental agencies concerned.

Reprints of the report, which is being distributed internationally by the World Health Organization, may be obtained in the United States from the American Social Hygiene Association, 1790 Broadway, New York 19, N. Y.

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Wednesday at 2:45 p. m.

WSUI—Thursday at 11:45 a. m.

- | | |
|-------------|---|
| Sept. 1- 2 | Blue Shield—Don L. Taylor, Des Moines |
| Sept. 8- 9 | Glands, Their Influence in Body Build and Behavior—George A. Sywassink, M.D., Muscatine |
| Sept. 15-16 | Meeting Emotional Depression—William E. Ash, M.D., Council Bluffs |
| Sept. 22-23 | Mental Hygiene in the Classroom—Allan H. Frankle, M.D., Des Moines |
| Sept. 29-30 | Emotional Health in Work and Play |

STATE DEPARTMENT OF HEALTH



STATEWIDE RAT CONTROL

During the month of September, another statewide program will get under way. This time it is the Iowa Rat Control Program co-sponsored by the Agricultural Extension Service of Iowa State College, the State Department of Agriculture, the State Department of Health, the State Conservation Commission, the Iowa Farm Bureau, and the Production and Marketing Association.

This program, designed along the same lines as the State Fly Control Program, calls for absolute cooperation on the part of everyone concerned. Urban and rural groups are urged to join hands in an effort to stamp out one of the nation's leading pests.

In addition to the tremendous losses in food and property damage, there is also the question of disease to consider. Rats have been implicated in the spread of bubonic plague, murine typhus fever, rabies, rat bite fever, spirochetal jaundice (Weil's Disease), trichinosis, and food poisoning. According to Dr. I. H. Borts, Director of the State Hygienic Laboratory, rats were found to be infected with trichina in seven out of eight outbreaks of human trichinosis in Iowa. The hogs on the farms were the source of the human cases with the rats having served as a reservoir of infection for the hogs.

It is usually not necessary to remind individuals that rats are both destructive and dangerous. The information they do seek is what can be done to control these pests and how can a rat control program be started. Information of this kind will be available through this state committee and will be first released at a state-wide organization meeting to be held in Des Moines around the middle of September.

It must be emphasized that this is not just a "flash-in the pan" campaign, one that produces only temporary results. It is intended to be a regular program, which if followed diligently, will reduce and maintain the rat population at a minimum figure.

Sanitation is the principal item in any rat control work. Poisoning by itself will produce but tem-

porary results. Control comes only by destroying the rat's homes, taking away their supply of food, and building them out of our homes and business houses. After the initial cleanup has been completed, the people must not be led to believe that the job is done. Good sanitation must continue to obtain lasting control.

Everyone is urged to do all that is possible in promoting and backing this program. If the question arises as to how a program may be started in a specific community or county, please contact the county extension director. He is one of the key men in this project.

EQUINE ENCEPHALITIS

The Bureau of Animal Industry of the Department of Agriculture recently summarized the incidence of reported cases of equine encephalitis in horses and mules in 13 counties in Iowa. According to the report during May, June and July of this year the disease has occurred in horses and mules in 13 Iowa counties. Presence of the disease in 17 other counties has been recent enough to cause an immunization program for protection of horses and mules in 30 Iowa counties.

Although no human cases have been brought to our attention this year, we are entering the calendar period when we can expect their occurrence. Since many cases of encephalitis are reported to us without statement of type of the disease being mentioned and since we do not receive answers to all queries sent regarding these unspecified diagnoses, we have no knowledge of the exact number of human cases of equine encephalitis occurring yearly in the state.

Clinical diagnosis and epidemiologic investigation left little doubt, however, that human cases did occur last year in several counties of the state. In Scott and Keokuk counties the disease appeared in children in rural areas where mosquitoes were abundant. Of eight confirmed cases in Pottawattamie County all were among adult males (age ranges 22 to 72).

Reporting of human cases began in August and

stopped shortly after onset of heavy October frosts ended the season of mosquito activity.

While control of the disease, infectious encephalitis, in farm animals depends upon the active immunization of the animals, the lowered relative frequency of the disease in man does not warrant such procedures. We depend rather upon such procedures as destruction of mosquito breeding places, spraying to kill adult forms in or about buildings or screening to prevent their entry into buildings. Either oil emulsions or water suspensions of DDT may be used to kill the mosquito. Directions for use of DDT for this purpose can be obtained from your county agricultural agent.

POLIOMYELITIS

Two hundred and thirty-five cases of poliomyelitis have been reported in Iowa for the period January 1 to August 14. The peak week for the year to date was the week ending August 1, when 47 cases were reported. There was a drop to 33 cases for the following week ending August 7 and a subsequent rise to 36 cases for the week of August 14.

Incidence has definitely decreased in the Woodbury-Harrison and Pottawattamie area, which has borne the brunt of the 1948 invasion, to the extent that hospital discharges there now are in excess of the number of new cases.

Minnesota, experiencing increases of the disease, reports many of her cases are in the southern tier of counties. Nebraska also reports a large percentage of cases are residents of counties adjacent to Iowa.

MUMPS CONVALESCENT SERUM

The Serum-Plasma Center of the State Department of Health desires to inform physicians that mumps convalescent serum is now available for distribution. Mumps serum is obtained from older children and adults having recovered from the disease within the past six months.

Since mumps is usually a mild disease, no effort is ordinarily made to prevent its occurrence. In particular cases, however, prevention may be deemed wise. Pooled convalescent serum has been used with a fair degree of success for this purpose. Pooled convalescent serum has also been used in the treatment of orchitis complicating mumps.

The doses for passive immunization are:

For children under 5 years of age—10 cc.

For children 5 to 15 years of age—10 to 20 cc.

For adults—20 to 30 cc.

Recommended dosage for therapy—30 cc. or more if needed.

Due to the newness of the product in Iowa, few case reports have been received; therefore, we have no record at present as to the results obtained.

APPOINTMENT OF NEW DIRECTOR OF THE DIVISION OF PREVENTABLE DISEASES

Dr. Ralph H. Heeren, formerly director of the Division of Communicable Disease at the Oklahoma State Health Department, has taken over the duties of the Director of Preventable Diseases and Venereal Disease for the Iowa State Health Department. He succeeds Dr. Carl F. Jordan, who resigned in May to become health officer at Fort Worth, Texas.

Dr. Heeren is a native of Iowa. He received his bachelor's degree from Iowa State College and his medical degree from the State University of Iowa College of Medicine. He also has earned a Ph.D. degree in medical bacteriology at Western Reserve University, Cleveland, and an M.P.H. degree at Harvard. He has had varied teaching and field training experiences. He has taught medical bacteriology at Western Reserve University Medical School, preventive medicine and public health at the State University of Iowa and Tulane Medical Colleges. He has had experience in state health work in Iowa, Louisiana and Oklahoma and is well qualified to carry on as successor to Dr. Jordan.

MORBIDITY REPORT

DISEASES	July '48	June '48	July '47	Most Cases Reported From Counties Below
Diphtheria	4	10	15	Clinton, Delaware, Linn, Pottawattamie
Scarlet Fever	31	57	44	Linn, Polk, Scott
Typhoid Fever	2	3	0	Linn, Humboldt
Smallpox	0	0	0	.....
Measles	157	409	269	Boone, Dubuque, Linn, Worth
Whooping Cough ...	40	19	143	Linn, Polk, Story
Brucellosis	93	31	119	Carroll, Keokuk, Sioux (others scattered)
Chickenpox	63	186	96	Clinton, Des Moines, Dubuque, Story
German Measles ...	6	1	9	Scattered
Influenza	0	0	1	.....
Malaria	0	0	1	.....
Meningitis	6	4	4	Scattered
Mumps	136	191	27	Delaware, Dubuque, Story
Pneumonia	5	9	1	Scattered
Poliomyelitis	91	36	9	Harrison, Polk, Pottawattamie, Shelby
Tuberculosis	85	55	46	For the State
Gonorrhea	149	86	133	For the State
Syphilis	148	124	237	For the State

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No. 9

Alcoholic Intoxication Tests

The alarmingly high incidence of fatal automobile accidents, a goodly percentage of which involve persons under the influence of alcohol, has "put the bee," so to speak, on the development of foolproof tests for intoxication.

In a recent issue of *Industrial Medicine*, R. N. Harger* pointed out that normal body alcohol is infinitesimal and may be disregarded. Alcohol is stored in the body in proportion to the water content of each tissue; more than 90 per cent of this stored alcohol is burned by the body to carbon dioxide and water; less than 10 per cent is excreted in the urine, sweat and breath. The average adult can destroy in the body about one-third fluid ounce of pure alcohol per hour.

While the effects of alcohol on the digestive tract, heart, liver, kidneys, muscles, and the blood vessels of the skin are important, the chief effect is depression of the central nervous system. Increased concentration of alcohol in the brain causes impaired judgment, muscular incoordination, more marked loss of self control, and finally—marked central nervous system depression ranging from slight stupor to surgical anesthesia.

Development of chemical analyses by the American Medical Association Committee on Street and Highway Accidents and the National Safety Council's Committee on Tests for Driver Intoxication have been done with the following thoughts in mind: (1) chemical tests should protect not only the nondrinker, but also the mild drinker who

has not imbibed enough to be definitely affected; (2) any errors should favor the person being tested; and (3) allowance must be made for the fact that some people "carry their liquor" better than others.

The committees established the following zone limits: Zone I, with a blood alcohol of 0.0 to 50 mg. per 100 cc. shall be considered prima facie evidence that the driver is not under the influence; Zone II, with a blood alcohol of 50 mg. to 150 mg. per 100 cc., is the borderline zone with some drivers being under the influence and others not, requiring the recommendation that the evidence be considered relevant but not prima facie; Zone III, with a blood alcohol above 150 mg. per 100 cc. shall be considered prima facie evidence that the driver is under the influence. With concentration of blood alcohol of 400 mg. per 100 cc. most people would be unable to drive at all, and 500 mg. per 100 cc. is near the lethal point.

The first method whereby the level of body alcohol is determined is a laboratory procedure in which the distillate from a body material is oxidized with dichromate in 1:1 sulfuric acid, and the excess of dichromate then titrated with a red reducing fluid containing methyl orange and ferrous sulfate in the same concentration of sulfuric acid. This method has a sharp end point, possesses a good degree of accuracy and has been widely used.

The scarcity of trained chemists in most police departments prompted the development of a simple method of testing the alcohol content of the breath. It is a portable apparatus in which the expired air is allowed to bubble through a purple fluid composed of 1 cc. of twentieth normal potassium permanganate in 3:4 sulfuric acid. The purple fluid absorbs all alcohol from the breath, reacting quantitatively with the alcohol at room temperature. The volume of alveolar air is measured by simultaneously determining the carbon dioxide, since normal alveolar air contains close to 5.5 per cent of carbon dioxide. The alcohol content of 2,000 cc. of alveolar air is equal to that in 1 cc. of blood.

Physicians would do well to remind patients suffering from alcoholic tendencies that, according to tests, blood alcohol above 150 mg. per 100 cc. shows decreases of skill ranging from 16 to 24 per cent, and that each has increased his probability of an accident fifty-five times, on the average.

Folic Acid

Two years ago folic acid, pteroyl glutamic acid, was welcomed as a wonder drug. Its therapeutic effect in the treatment of pernicious anemia and

*Harger, R. N.: Chemical tests for intoxication as an aid to traffic and industrial safety. *Industrial Medicine*, xvii: 52-56 (February) 1948.

such related conditions as sprue, pernicious anemia of pregnancy, "tropical" macrocytic anemia was apparently more marked than was that of liver extract.

Clinicians, however, became concerned with whether or not folic acid would and of itself adequately protect the patient with pernicious anemia from the development of progress involvement of the central nervous system, granted that other aspects of the deficiency state were kept under control. During 1947 it became apparent that this drug often failed to prevent the development or progression of neurologic symptoms and that the signs of spinal cord involvement might develop explosively in patients taking the drug.

From available evidence at this date, it appears probable that folic acid cannot be relied upon as the sole agent in the treatment of pernicious anemia, since its use may not only fail to prevent injury to the central nervous system but may actually be attended with harmful effects to nerve tissue. Liver extract must therefore remain, at least for the present, the sheet anchor in the treatment of Addisonian pernicious anemia. This does not exclude the possibility that folic acid may also be useful as an adjuvant to liver extract therapy and as a more specific substance than liver extract in certain conditions related to but not identical with Addisonian pernicious anemia.

In the experience of various authors who have written articles on this subject recently, small doses of folic acid, orally administered, combined with liver extract, parenterally injected, induce better remissions, both hematologic and neurologic, than either substance alone. One physician* reported that in his experience small doses of folic acid, e. g., 5 mg. per day, have proved useful in the maintenance therapy of pernicious anemia, in conjunction with injections of liver extract at two to four week intervals. This combination has seemed desirable on physiologic grounds since an active therapeutic agent is given daily to supply a chronic deficiency state, and the patient receives at stated periods a deposit of known and time tested material, i. e., liver extract. Under this regimen all patients treated have stated that their feeling of vitality is considerably improved; in addition, their red cell counts have tended to be higher than on liver extract alone. No evidence of neurologic relapse has occurred.

Though the exact place of folic acid in the armamentarium of therapy still remains to be

clearly defined, it is known to be a helpful adjuvant in the treatment of pernicious anemia. It will be of even further value when the exact nature of the liver extract factor has been defined and when more is known about the specific enzyme systems concerned in the development of pernicious anemia.

The Antivivisection Movement

The growing importance of the antivivisection movement as a threat to medical progress has been pointed out forcefully by Virgil H. Moon, M.D., Professor of Pathology, Emeritus, of Jefferson Medical College, Philadelphia, in a recent issue of a popular magazine.*

That the group is no longer harmless, though still small, is evident through the facts that the Hearst press now lends its support; in at least eight states and the District of Columbia, bills have been introduced to outlaw the use of animals for scientific purposes; and forty-two congressmen have signed a petition to bring an antivivisection bill from a committee to the floor of Congress. As Dr. Moon states, "The movement has been taken over by shrewd promoters who have taught it how to make noises far out of proportion to its size."

Few laymen realize that the antivivisectionists and true humanitarians are entirely separate in organization and ideas. Mr. Robert Seller, president of the American Humane Association, has been quoted as saying, "No one can deny the very many benefits to humanity that have accrued to medical research involving the use of animals. All I can say is, let us be as sure as we can that the research is conducted by qualified persons, and that the suffering of animals is held to an absolute minimum."

On the other hand, the antivivisectionists advocate, in addition to complete abstinence of the use of animals for medical research purposes, that (1) the germ theory is a fake, and bacteria do not cause disease; (2) campaigns for funds to fight cancer, infantile paralysis and tuberculosis should be boycotted because the funds support experimentation on animals; (3) parents should refuse to allow their children to be vaccinated against smallpox or inoculated against diphtheria, scarlet fever or tetanus; (4) all vaccines, serums and antitoxins are merely "medical frauds"; (5) official government reports showing progress against disease are not to be believed because they are "compiled by physicians whose prestige is in-

*Dameshek, William: Editorial—Folic acid, pernicious anemia and pendulums. *Blood, The Journal of Hematology*, iii:699-702 (June) 1948.

*Moon, Virgil H., and Wittels, David G.: They're trifling with your life. *The Saturday Evening Post*, pp. 16-17, 52, 54, 59-60 (July 24) 1948.

volved"; (6) there is no such thing as hydrophobia, and if there is, dogs cannot transmit it to humans. The preposterousness of these statements is self evident.

Without test animals medical progress would be virtually halted. Smallpox, diphtheria, lobar pneumonia, syphilis and typhoid were brought under control through experimentation on animals; all serums, antitoxins and vaccines were first worked out on animals. There is yet much to be done on cancer, leukemia, high blood pressure, the virus diseases, and poliomyelitis, and without test animals the work cannot continue.

Thorough education of the public concerning the principles upheld by the antivivisectionists as compared to the value of test animals in medical research is all that is needed to save medical advancement from this possible threat. Only those with a distorted sense of values could condemn the medical use of animals by qualified persons, thus placing the nonuse of such creatures above the value of human life.

Meeting of the House of Delegates of the American Medical Association

The House of Delegates of the American Medical Association was called to order Monday morning, June 21, and held daily sessions through June 24 because of the pressure of work. There were 165 delegates in attendance at the opening session.

The Speaker of the House, Dr. R. W. Fouts, called attention to changes which had been made to expedite work of the House but said another necessary change was having delegates take office January 1 following their election. He mentioned Blue Cross, prepayment insurance, the nursing problem and the intern situation as the most important matters before the House.

Dr. Edward L. Bortz reviewed work done during the past year by the trustees, councils, and the headquarters staff. He called attention to the need for physicians by the armed services, saying a physician draft had been deleted from legislation on Selective Service, but the responsibility for providing adequate medical personnel was the responsibility of the medical profession. He drew attention to new social relationships entering the picture of medical practice, saying the Woman's Auxiliary was a potent force. He also praised the movement toward public relations officers being initiated in many states.

The supplementary report of the Board of Trustees covered new developments in the World Medical Association since the January meeting

in Cleveland, and also presented the reports of special committees appointed to study general practice and the nursing problem.

Dr. Lull introduced his new assistant, Dr. Ernest B. Howard.

Many resolutions and items of new business were introduced Monday afternoon. Several dealt with the action of the American Medical Association in substituting commercial insurance for Blue Cross; others with blood banks, emergency medical service, intern placement and training, nursing problems, examinations for the armed forces, and medical care for veterans. All these were referred to reference committees for study and recommendation, as were reports of various officers and committees.

Tuesday afternoon Dr. Paul R. Hawley, director of Blue Cross-Blue Shield, addressed the House in executive session, following which the proposed revision of the constitution and by-laws was presented article by article, and approval given or a change asked. This consumed the entire afternoon.

Wednesday the House met in executive session most of the day to consider the matters which had been presented for private consideration. Recommendations resulting from the session were in part as follows:

The House of Delegates approved in principle the plan of the American Red Cross in setting up blood banks; it reaffirmed the authority of the local medical society in approving or disapproving such blood banks; and it related its belief that blood should not be furnished free, but a means test should be applied.

The House recommended that at the expiration of the present contract for hospital and medical care, the American Medical Association make every sincere effort to procure this coverage for its employees through Blue Cross-Blue Shield local organizations.

It approved the recommendation regarding classification of nurses into professional nurses (clinical nurses and nurse educators) and trained practical nurses, and continued its committee of five to confer with the American Hospital Association and American Nurses Association.

It approved a resolution "in order to preserve the general practice of medicine, the American Medical Association institute a program to allocate the number of interns of all approved hospitals on an equal basis according to yearly admissions."

Election of officers was held Thursday afternoon, with Dr. Ernest E. Irons of Chicago being elevated to president-elect; Dr. R. W. Fouts to

vice-president; Dr. F. F. Borzell to speaker of the House; and Dr. J. R. Reuling to vice-speaker. Dr. Lull and Dr. Moore were re-elected secretary and treasurer respectively. Dr. Gunnar Gunderson of LaCrosse, Wis.; Dr. E. S. Hamilton of Kankakee, Ill.; and Dr. Walter B. Martin of Norfolk, Va., were elected trustees; Dr. John H. O'Shea of Spokane, Wash., and Dr. Homer L. Pearson, Jr., of Miami, Fla., were reappointed to the Judicial Council; Dr. Alphonse McMahon of St. Louis was elected to the Council on Scientific Assembly; Dr. William L. Pressly of Due West, S. C., and Dr. Harvey B. Stone of Baltimore, Md., were elected to the Council on Medical Education and Hospitals; Dr. Henry Mulholland of Charlottesville, Va., and Dr. Joseph D. McCarthy of Omaha, Neb., were elected to the Council on Medical Service.

Atlantic City was chosen as the meeting place for 1951.

HOSPITAL BIRTH RATES AT NEW HIGH IN 1946

A new high record was set in 1946 for the proportion of births delivered in hospitals or institutions according to information released by Oscar R. Ewing, Federal Security Administrator, which summarized data prepared by the National Office of Vital Statistics of the Public Health Service.

Of the 3,288,672 live births recorded for 1946, 2,708,223 or 82.4 per cent occurred in hospitals, 402,759 or 12.2 per cent were attended by physicians outside hospitals, and 177,690 or 5.4 per cent were attended by midwives or other nonphysicians. This is in sharp contrast with the situation that existed in 1935 (the first year that such data were compiled by the National Office of Vital Statistics). In 1935, only 36.9 per cent of the confinements occurred in hospitals, about half (50.6 per cent) of the registered births were attended outside hospitals by physicians, and 12.5 per cent were attended by midwives and others.

Relatively large differences existed in 1946 in the proportions of births attended by physicians (in or out of hospitals) and of births occurring in hospitals as between the white and nonwhite groups and between the residents of urban and rural areas. While almost all (98.4 per cent) of the white births were attended by physicians and about seven in eight (87.1 per cent) occurred in hospitals, for nonwhite births less than two out of three (65.2 per cent) were attended by a physician and less than half (45.2 per cent) occurred in hospitals. The differences were less marked as between residents of urban and rural areas. For urban residents, 97.9 per cent of the registered live births in 1946 were attended by physicians and 92.5 per cent occurred in hospitals; for rural residents, the corresponding proportions were 89.6 per cent and 67.1 per cent.

NOMINATIONS FOR SCHOLARS IN MEDICAL SCIENCE

Medical schools in the United States and Canada are invited by the John and Mary R. Markle Foundation to make nominations for the second group of Scholars in Medical Science on or before December 1, 1948. Each school, through the dean, may nominate one candidate. No nominations from individuals will be considered.

The program is designed to aid promising young men and women planning careers in academic medicine, who have not yet made their reputations. They should have completed the usual fellowship training in some area of science related to medicine and should hold, or expect to hold, in the academic year 1949-50 a full-time faculty appointment on the staff of a medical school.

Grants of \$25,000, payable at the rate of \$5,000 annually, will be made to the schools over a five-year period for the support of each scholar finally selected, his research, or both.

The number of scholars to be appointed in 1949 has not yet been determined. Sixteen were chosen in 1948. A new booklet describing the plan is available on request from the Foundation, 14 Wall Street, New York 5, N. Y.

KANSAS CITY SOUTHWEST CLINICAL SOCIETY CONFERENCE

The twenty-sixth annual fall clinical conference of the Kansas City Southwest Clinical Society will be held in Kansas City, Mo., Oct. 4, 5, 6 and 7, 1948.

Sixteen guest speakers will make forty-eight scientific presentations in addition to participating in the clinopathologic conference and the daily round-table luncheon question and answer sessions. Forty-two members will take part in the sectional lecture groups.

A copy of the *Kansas City Medical Journal*, giving full details of the program, will be mailed to you upon request, Executive Office, 630 Shukert Building, Kansas City 6, Mo.

CENTRAL ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS MEETING

The sixteenth annual meeting of the Central Association of Obstetricians and Gynecologists is to take place in Denver, Colo., on Sept. 23, 24, and 25, 1948.

The Shirley-Savoy Hotel is the convention headquarters and the executive committee will meet there on Wednesday, September 22, just preceding the annual meeting.

NEWS NOTES

from the

Committee on Medical Service and Public Relations

SECOND ANNUAL STATE MEETING

The Committee on Medical Service and Public Relations is planning to hold its second annual meeting on Wednesday, September 15, in the South Ball Room of Hotel Fort Des Moines in Des Moines. Each county medical society is asked to send an official representative for whom the committee will pay travel expenses in the amount of round trip coach fare, together with luncheon during the meeting. All other interested doctors are most welcome to attend and it is hoped they will consider this

announcement an invitation to be present.

The program committee has tried to outline as useful a day's schedule as possible—one that will have a direct bearing on problems confronting the medical profession today. The subjects and tentative speakers are listed below.

The Polk County Medical Society will hold its opening meeting of the winter season Wednesday evening, September 15, following this all day meeting. Guests and delegates are cordially invited to stay over and attend it.

PROGRAM

C. A. NICOLL, M.D., Panora, Presiding
Chairman, Program Committee

- | | |
|---|---|
| <p>9:00 a.m. Opening remarks
FRED STERNAGEL, M.D., West Des Moines, Chairman, Committee on Medical Service and Public Relations
JAMES E. REEDER, M.D., Sioux City, President, Iowa State Medical Society</p> <p>9:15 a.m. Present Status of the Hospital Construction Program
ROBERT HANLON, Director, State Department of Health</p> <p>9:45 a.m. Question and Answer Period</p> <p>10:00 a.m. Iowa Medical Service
R. D. BERNARD, M.D., Clarion
DONALD L. TAYLOR, Des Moines</p> <p>10:30 a.m. Question and Answer Period</p> <p>10:45 a.m. The Nursing Problem—How Will It Be Solved?
F. H. ARESTAD, M.D., Chicago, Council on Medical Education and Hospitals, American Medical Association</p> <p>11:15 a.m. Question and Answer Period</p> <p>11:30 a.m. Adjournment until luncheon</p> <p>12:00 noon Luncheon
The Place of the Woman's Auxiliary
FRANCIS F. BORZELL, M.D., Philadel-</p> | <p>phia, Speaker, House of Delegates, American Medical Association</p> <p>2:00 p.m. General Practice: A Complex Problem
N. G. ALCOCK, M.D., Iowa City, Moderator
E. E. SHAW, M.D., Indianola
C. A. NICOLL, M.D., Panora</p> <p>2:30 p.m. Question and Answer Period</p> <p>2:45 p.m. Public Relations and the Physician
MR. JOHN HENRY, Des Moines, Public Relations Counsel, Register and Tribune</p> <p>3:15 p.m. Question and Answer Period</p> <p>3:30 p.m. Symposium: How to Stimulate County Society Activities
Maintaining Interest in the County Medical Society
C. DUDLEY MILLER, M.D., Denison
Should Programs Be Home-Grown or Imported?
CHARLES J. BAKER, M.D., Fort Dodge
The Fruits of Organization
CLYDE A. BOICE, M.D., Washington</p> <p>4:30 p.m. Adjournment</p> |
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IOWA STATE MEDICAL SOCIETY

Officers and Committees, 1948-1949

President.....James E. Reeder, Sioux City
 President-Elect.....Nathaniel G. Alcock, Iowa City
 First Vice President.....William E. Ash, Council Bluffs
 Second Vice President.....Charles T. Maxwell, Sioux City
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ALTERNATE DELEGATES TO A. M. A.

Donald C. Konzett, Dubuque.....1950
 Julian E. McFarland, Ames.....1950
 Ernest E. Shaw, Indianola.....1949

COUNCILORS

Term
Expires

First District—Leslie L. Carr, West Union.....1952
 Second District—Charles H. Cretzmeyer, Algona.....1953
 Third District—James B. Knipe, Armstrong.....1949
 Fourth District—Robert N. Larimer, Sioux City, Secretary..1950
 Fifth District—Edward F. Beeh, Fort Dodge.....1951
 Sixth District—James C. Hill, Newton.....1952
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 Eighth District—Clyde A. Boice, Washington, Chairman....1949
 Ninth District—Elias B. Howell, Ottumwa.....1950
 Tenth District—James G. Macrae, Creston.....1951
 Eleventh District—William S. Reiley, Red Oak.....1952

TRUSTEES

Lee R. Woodward, Mason City.....1949
 Walter A. Sternberg, Mount Pleasant, Chairman.....1950
 Ben T. Whitaker, Boone.....1951

DELEGATES TO A. M. A.

Thomas F. Thornton, Waterloo.....1950
 George Braunlich, Davenport.....1950
 Gerald V. Caughlan, Council Bluffs.....1949

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 Walter A. Sternberg.....Mount Pleasant
 Ben T. Whitaker.....Boone
 Leslie L. Carr.....West Union
 Charles H. Cretzmeyer.....Algona
 James B. Knipe.....Armstrong
 Robert N. Larimer.....Sioux City
 Edward F. Beeh.....Fort Dodge
 James C. Hill.....Newton
 Harold A. Housholder.....Winthrop
 Clyde A. Boice.....Washington
 Elias B. Howell.....Ottumwa
 James G. Macrae.....Creston
 William S. Reiley.....Red Oak

THE JOURNAL

Everett M. George, Editor.....Des Moines

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 DeVoe O. Bovenmyer.....Ottumwa

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 Leon J. Galinsky.....Des Moines
 Ralph E. Smiley.....Mason City
 William Spear.....Oakdale
 Daniel R. Webb.....Cedar Rapids

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- THE ACUTE BACTERIAL DISEASES—Their Diagnosis and Treatment**—By Harry F. Dowling, M.D., F.A.C.P., Clinical Professor of Medicine, George Washington University; Chief, George Washington Medical Division, Gallinger Municipal Hospital; with the collaboration of LEWIS K. SWEET, M.D., Chief Medical Officer in Pediatrics and Infectious Diseases, Gallinger Municipal Hospital; Adjunct Clinical Professor of Pediatrics, George Washington and Georgetown Universities; and HAROLD L. HIRSH, M.D., Assistant Professor of Medicine, Georgetown University; Director of the Bacteriology and Immunology Laboratory, Georgetown University Hospital. W. B. Saunders Company, Philadelphia, 1948. Price, \$6.50.
- THE BATTLE OF THE CONSCIENCE—A Psychiatric Study of the Inner Working of the Conscience**—By Edmund Bergler, M.D., Washington Institute of Medicine, Washington, D. C., 1948. Price, \$3.75.
- A HISTORY OF THE HEART AND THE CIRCULATION**—By Fredrick A. Willius, M.D., M.S., in Med., Senior Consultant in Cardiology, Mayo Clinic; Professor of Medicine, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota; and THOMAS J. DRY, M.D., Ch.B. in Med., Consultant, Section on Cardiology, Mayo Clinic; Associate Professor of Medicine, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota. W. B. Saunders Co., Philadelphia, 1948. Price, \$8.
- HISTORY OF THE MEDICAL SOCIETY OF THE COUNTY OF WESTCHESTER, 1797-1947**—A compilation from the available minutes of the Society and various contemporary sources during the years for which the minutes were lost. Published by the Medical Society of the County of Westchester, 1947.
- MODERN CLINICAL PSYCHIATRY**—By Arthur P. Noyes, M.D., Superintendent, Norristown State Hospital, Norristown, Pa. W. B. Saunders Co., Philadelphia, 1948. Price, \$6.
- NEUROANATOMY**—By Fred A. Mettler, A.M., M.D., Ph.D., Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University, New York. Second edition. The C. V. Mosby Company, St. Louis, 1948. Price, \$10.
- PHYSIOLOGY OF EXERCISE** — By Laurence E. Morehouse, Ph.D., Associate Professor of Physical Education, the University of Southern California; Formerly Research Fellow, Harvard Fatigue Laboratory; and AUGUSTUS T. MILLER, Jr., Ph.D., Associate Professor of Physiology, University of North Carolina Medical School. The C. V. Mosby Company, St. Louis, 1948. Price, \$4.75.
- SYNOPSIS OF PEDIATRICS**—By John Zahorsky, A.B., M.D., F.A.C.P., Professor of Pediatrics and Director of the Department of Pediatrics, St. Louis University School of Medicine, and Pediatrician-in-Chief to the St. Mary's Group of Hospitals; Fellow of the American Academy of Pediatrics; assisted by T. S. Zahorsky, B.S., M.D., Senior Instructor in Pediatrics, St. Louis University School of Medicine, and Assistant Pediatrician to the St. Mary's Group of Hospitals. Fifth edition. The C. V. Mosby Company, 1948. Price, \$5.50.
- A TEXT-BOOK OF PATHOLOGY**—By William Boyd, M.D., Dipl., Psych., M.R.C.P., Edin.F.R.C.P. Long., LL.D., Sask., M.D., Oslo, F.R.S.C., Professor of Pathology and Bacteriology of the University of Toronto, Toronto. Fifth edition, thoroughly revised. Lea & Febiger, Philadelphia, 1947. Price, \$10.
- TREATMENT OF HEART DISEASE**—By William A. Brams, M.S., M.D., Ph.D., Associate Professor of Medicine, Northwestern University Medical School, and Attending Physician, Michael Reese Hospital, Chicago. W. B. Saunders Co., Philadelphia, 1948. Price, \$3.50.
- VASCULAR DISEASES IN CLINICAL PRACTICE**—By Irving Sherwood Wright, M.D., Associate Professor of Clinical Medicine, Cornell University Medical College; Chief of Section on Vascular Diseases of the Department of Medicine, New York Hospital. The Year Book Publishers, Inc., Chicago, 1948. Price, \$7.50.
- THE 1947 YEAR BOOK OF PATHOLOGY AND CLINICAL PATHOLOGY**—Edited by Howard T. Karner, M.D., Professor of Pathology, Director of the Institute of Pathology, Western Reserve University, Cleveland. Assistant Editor—HERBERT Z. LUND, M.D., Assistant Professor of Pathology, Western Reserve University, Cleveland; **CLINICAL PATHOLOGY** edited by ARTHUR HAWLEY SANFORD, M.D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation); Senior Consultant, Division of Clinical Laboratories, Mayo Clinic. The Year Book Publishers, Inc., Chicago, 1948. Price, \$3.75.
- YOU AND YOUR DOCTOR**—A Frank Discussion of Group Medical Practice and Other Modern Trends in American Medicine—By Benjamin F. Miller, M.D., Clinical Professor of Medicine, George Washington Medical School; Research Associate in Medicine, National Research Council; formerly associated with the University of Chicago Clinics and the United States Public Health Service. Whittlesey House, McGraw-Hill Book Company, Inc., New York. Price, \$2.75.

BOOK REVIEWS

CLINICAL LABORATORY METHODS AND DIAGNOSIS

A Textbook on Laboratory Procedures with Their Interpretation—By R. B. H. Gradwohl, M.D., D.Sc., F.R.S.T.M.&H. (London), Director of the Gradwohl Laboratories and Gradwohl School of Laboratory Technique; Pathologist to Christian Hospital; Director, Research Laboratory, St. Louis Metropolitan Police Department, St. Louis, Mo.; Commander, Medical Corps, United States Naval Reserve, Ret.; Fellow, American Public Health Association. Fourth edition. Three volumes. The C. V. Mosby Company, St. Louis, 1948. Price, \$40.

The fourth edition of Gradwohl's "Clinical Laboratory Methods and Diagnosis" consists of three large volumes. There are 3,264 pages, 1,100 illustrations and 58 color plates.

This publication is a compilation of information

concerning clinical laboratory work. It attempts to cover all phases of clinical pathology. It fills a great need which no other author has attempted to meet, namely, the gathering together of as much information as possible concerning numerous laboratory procedures. All other books on laboratory medicine are primarily textbooks, and do not even mention numerous less common procedures, information concerning which is often needed on short notice. It contains much up-to-date information, and adequately cites references which will enable the user to refer to the original articles concerning various methods.

The task of compiling this material must have been a tremendous one. It has been accomplished with the aid of several collaborators who have written a few of the chapters. It would seem that it might be wise for the author to consider the publication of his next edition in loose-leaf form. There is need of constant revision of such a work as this, and only in this manner can he hope to keep up the pace.

R. F. B.

A MANUAL OF CLINICAL THERAPEUTICS

A Guide for Students and Practitioners—
By Windsor C. Cutting, M.D., Professor of
Therapeutics, Stanford University School of
Medicine, San Francisco, Calif. Second edition.
W. B. Saunders Co., Philadelphia, 1948. Price, \$5.

This second edition is an enlarged and extended manual of therapeutics. The author states in the preface that the subject matter falls into the sequence of courses in pharmacology and medicine as given in most institutions and it reflects the author's experiences in the treatment and care of patients.

General problems of therapy such as orders, prescriptions, isolation precautions, diet, parenteral feeding, etc., are discussed in the first two chapters. Then follows a systematic review of bacterial infections including excellent tables on the choice of sulfonamides, organisms susceptible to penicillin and streptomycin, and the more common dosages of each. Treatment of virus and rickettsial infections, mycotic and protozoal infections, nutritional diseases, vitamin deficiencies, endocrine and metabolic disorders then follow in that order. The latter half of the book is devoted to the treatment of specific diseases by systems, i.e., the alimentary tract, cardiovascular system, respiratory system, etc. Finally in the appendix various special procedures are discussed such as parenteral fluid therapy techniques, transfusion, thoracentesis, lumbar puncture, etc. Helpful diet lists, symptoms and treatment of poisoning, tables of exact dosages for children, and useful tables of clinical physiologic data, conclude the book.

The emphasis of the book is upon treatment, with only a brief paragraph devoted to a definition and major findings of each condition. General as well as specific measures of therapy with a brief word on prevention are then given in a brief and to-the-point style. It is thoroughly up-to-date and modern in its approach and includes the newer antibiotics, anti-convulsant drugs, folic acid, etc. It is obviously what its title suggest—a *manual* of therapeutics with the more accepted forms of treatment given with no attempt to discuss the relative merits of other therapy. It should be useful to the practitioner as a quick desk reference of therapy and to the student as a quick review of the subject.

B. I. K.

PRACTICAL X-RAY TREATMENT

By Arthur W. Erskine, M.D. Third edition, revised and enlarged. Bruce Publishing Company, St. Paul and Minneapolis, 1947. Price, \$4.50.

It is with pleasure that I am able to review the third edition of Dr. Erskine's book. The title is exactly correct; this book is practical. As stated in the introduction to the first edition, the book is not written for the specialist in roentgenology, but more for the doctor who uses x-ray therapy when it is not feasible for the patient to reach the specialist in another community.

Dr. Erskine's discussion of the apparatus, the protection of the operator and the patient, and the various precautions which are essential in the use of x-ray therapy are clearly and concisely listed. After a brief review of the method of measuring x-ray and the factors affecting the skin dosage and the percentage of depth dose, Dr. Erskine outlines several standard technics. These standard technics are elaborated by many tables describing the various factors which influence the amount of x-ray which is given to the skin and to the underlying tissue at different depths. Of particular value are the tables on scattering and distribution. Following a description of the effects of x-ray on tissue, Dr. Erskine describes the methods of treatment of various skin diseases, infections and inflammations, nonmalignant diseases, and lastly the various malignant lesions which are encountered. Dr. Erskine definitely states which types of cancer are benefited and which are not by x-ray therapy. Throughout the book the reader is impressed by the vast experience which the author has encountered and by his practical approach to the x-ray therapy problem in the treatment of disease.

THE 1947 YEAR BOOK OF PATHOLOGY AND CLINICAL PATHOLOGY

Edited by Howard T. Karsner, M.D., Professor of Pathology, Director of the Institute of Pathology, Western Reserve University, Cleveland. Assistant Editor—HERBERT Z. LUND, M.D., Assistant Professor of Pathology, Western Reserve University, Cleveland; *Clinical Pathology* edited by ARTHUR HAWLEY SANFORD, M.D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation); Senior Consultant, Division of Clinical Laboratories, Mayo Clinic. The Year Book Publishers, Inc., Chicago, 1948. Price, \$3.75.

The Yearbook of Pathology and Clinical Pathology has not been published since 1941, and it is indeed a pleasure to welcome it after such a long absence. The editors are to be congratulated upon their decision to re-establish it. The problems of reviewing the large volume of literature that have accumulated in the past seven years in the field of pathology must have been immense, and yet, the reader finds that every phase of pathology and clinical pathology has been exceedingly well reviewed. Only those articles which have made worthwhile contributions are listed. One of the outstanding features is the group of articles by outstanding authorities, which review and bring up to date the results of their investigations. These reviews themselves are worthy of any publication.

While this Yearbook is intended primarily for those interested in pathology, it can be highly recommended to anyone who wishes to review the literature in this field. In fact, anyone who uses the facilities of a clinical laboratory will find this volume to be a great value.

E. A. F.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. ALLAN G. FELTER, Van Meter

President-elect—MRS. CHARLES A. NICOLL, Panora

Secretary—MRS. CHARLES T. MAXWELL, Sioux City

Treasurer—MRS. M. A. ROYAL, 1138 Thirty-seventh Street, Des Moines 11

PROGRAM SUGGESTIONS

The formative years of our auxiliary have laid a firm foundation on which to build projects. We take pride in the progress made during those years, but each year we must become more purposeful and meet our opportunities and responsibilities.

County auxiliaries are urged to incorporate programs on the following themes in this year's work:

1. Nurse Recruitment. The need for nurse recruitment is one of the most critical problems today. Mrs. Howard W. Smith will be glad to provide material for this program.

2. Nurses Loan Fund. Voluntary donation of 50 cents per member will help maintain a revolving fund.

3. Mental Health. Health councils and local health units.

4. "Voluntary Prepayment Medical Care" is still of vital interest. A panel discussion, "What Every Doctor's Wife Should Know," has been prepared for your use. A program on this subject should include a history of compulsory health insurance, federal health bills, and information on Iowa's medical service plan.

5. "How the American Medical Association Functions" is a program explaining available services of the A.M.A. and the relationship of the auxiliary to the parent organization.

6. Cancer.

7. Work for the Handicapped. Mrs. Marian H. Brinker will gladly furnish material.

8. New developments in medicine.

9. *Hygeia*. Excellent material for roll call.

10. National Bulletin, the official voice of the Women's Auxiliary to the American Medical Association.

11. Regular reading of the "News" will offer countless suggestions for programs.

PUBLIC RELATIONS COMMITTEE MEETING

The Public Relations Committee met at the Savery Hotel for a luncheon meeting on July 7, 1948, with the following present: Mrs. J. E. Whitmire, chairman, of Sumner; Mrs. Harold Morgan of Mason City; Mrs. Anne Lachner of Des Moines; and Mrs. Claire H. Mitchell of Indianola. Others present at the meeting were Mrs. A. G. Felter, state presi-

dent, of Van Meter and Miss Mary McCord, executive secretary of the Iowa State Medical Society.

It was decided that the following announcement would be published in *The Iowa Clubwoman*, *The Iowa Legionnaire*, and *Iowa Parent-Teacher*: For help in planning health programs, the Public Relations Committee of the Iowa State Medical Auxiliary will be glad to provide suggestions as to films, radio scripts, printed material or available speakers. Write any of the following:

Mrs. J. E. Whitmire, Sumner.

Mrs. J. G. Kruml, 610 Oakland, Council Bluffs.

Mrs. Harold Morgan, Mason City.

Mrs. Anne Lachner, c/o Blue Cross, Des Moines.

Mrs. Emerson B. Dawson, Fort Dodge.

Mrs. Claire H. Mitchell, Indianola.

It was suggested that presidents of all county auxiliaries who know of persons willing and competent to make speeches on health topics correspond as soon as possible with the chairman.

Mrs. J. E. Whitmire, Chairman, Public Relations

HYGEIA COMMITTEE MEETING

The *Hygeia* Committee met in June for a luncheon in Des Moines to plan the program for the promotion of *Hygeia*. County auxiliary presidents will receive detailed information in September. We know each auxiliary member will work to increase our total number of subscriptions. *Hygeia* is our authentic health magazine offering reliable information on health.

Mrs. J. Stewart Jackson, *Hygeia* Chairman

DALLAS-GUTHRIE AUXILIARY

Members of the Auxiliary to the Dallas-Guthrie Medical Society met with their husbands at the Perry Country Club, July 29, 1948. A fine luncheon was enjoyed at one o'clock after which the members of the auxiliary were called to order by the president, Mrs. C. R. Osborn.

In the absence of the secretary, Mrs. W. A. Seidler, no minutes were on hand to read. The president appointed Mrs. C. E. Porter to fill the office of secretary for the remainder of the year. Seventeen members answered roll call and several visitors were present.

Mrs. E. T. Warren, Mrs. C. E. Porter, and Mrs.

K. M. Chapler were named as the nominating committee by the president.

Mrs. A. G. Felter, state president, reviewed the objectives for the year and reported briefly on the national meeting in Chicago. Hiss Hazel Herrick, newly appointed public health nurse for Dallas County, was present and outlined the scope of her duties.

Mrs. F. A. Wilkie, Perry, and Mrs. W. V. Thornburg, Guthrie Center, were named chairmen of their respective counties for the nursing survey committee.

Plans for a picnic at Springbrook Park on August 8 were announced by the social chairman, Mrs. William Seidler, Jr.

Mrs. George Elvidge, Perry, gave a memorable address based on "Famous Religious Shrines" which she has visited in many places all over the world.

Mrs. C. E. Porter, Secretary

MANAGING YOUR MIND

Can you honestly assert that you always understand yourself and others well enough to master most of the situations you must meet? If so, then you need not bother to read *Managing Your Mind* by S. H. Kraines, M.D., and E. S. Thetford (Macmillan, \$2.75). The thoughtful reader will not find a wealth of new material in this book, but he will like the provocative way in which the fundamental principles of psychology are presented. He will like the way facts are illustrated by case histories and conclusions are briefed in italics.

S. H. Kraines, M.D., is Associate in Psychiatry, University of Illinois College of Medicine, and a Diplomate of the American Board of Psychiatry and Neurology. E. S. Thetford is at the Woodrow Wilson Junior College, Chicago. *Managing Your Mind* is a scientific and authoritative effort "written to enable average men and women to get more out of life, to achieve greater satisfaction, to live lives more nearly ideal by the application of certain scientific discoveries." Recognizing the fact that "our emotional states as definitely determine the well-being of our bodies as they reflect it," the authors discuss "Man Versus Animal," "Emotional Thinking," "Tension," "Heart and Stomach Symptoms," "Sex and Marriage," "A Realistic Philosophy of Life," and other topics.

Since a well integrated personality is a growing and not a static one, most readers will particularly like the chapter on "Achieving Maturity" from which we quote: "You may not think very highly of the human race; but you are part of it, and you cannot hope to understand yourself or anyone else unless you take into account the common denominator of those assets and liabilities held in common.

"We have attempted to present a realistic picture of man—forever fleeing pain and pursuing pleasure, forever dominated by drives which demand fulfillment, but which must conform to the almost equally insistent demands of an inhibiting and often frustrating environment. What was once man's greatest

ally—an automatically functioning body geared to assist in direct achievement of pleasure and escape of pain—can easily become man's greatest liability unless he learns to exercise his cortical ability to delay responses, thereby controlling the production of emotion. If we understand that we are imperfectly equipped to achieve in any absolute sense that which we seek, then we are prepared for the inevitable failures which will attend our efforts, and such understanding is the basis of tolerance."

"If remembering mistakes of yesterday enables you to avoid making the same mistakes today, remember them; if remembering them does nothing but make you unhappy and regretful, forget them."

"If instead of one or two cherished resentments you have many, then you'd better stop worrying altogether about the other person and find out what's the matter with you. It may be that your basic trouble is hypersensitivity grounded in a sense of inferiority."

"Chronic worry is the cause and not the result of problems."

"All your intellectual insight will avail little to save your body from the development of tension symptoms and your 'spirit' from being sandpapered if you continue feeling tense and irritated by whatever does not conform to your particular desires, notions, or prejudices. And you can train yourself to feel that which you think."

Managing Your Mind will provide stimulating review material for auxiliary or lay groups.

Mrs. K. M. Chapler

CORRECTION

Mrs. L. C. Nelson rather than Mrs. L. C. Hansen is president of the Greene County Auxiliary.

APPRECIATION

We wish to express sincere gratitude to all those who have so graciously submitted material for "The Women's Auxiliary News" by the twelfth of the month and in typewritten form.

THE MEDICAL FAMILY

Mrs. W. E. Delphey, San Marino, California

Believing that wives of medical men, who have dedicated themselves to serving mankind through the *Art of Healing*, are a link in the *CHAIN OF THE MEDICAL FAMILY*, we hereby pause for self-evaluation, and we rededicate ourselves to our place beside them.

We shall strive to make OUR LINK increasingly strong and effective by the following means:

1. By the example of kindness, for we know that

it blesses those who give as it heals those who receive.

2. By recognition of our own innate capacities, measuring ourselves only by our own progress and not against the performance of others.

3. By guarding our sacred joy of being women, seeking to nurture and encourage in all women those qualities which are common to us in the maternal and nursing arts.

4. By seeking to recognize the innate goodness in others, holding in our minds the sincere wish for their success in the role that they have to play upon the *Stage of Life*.

5. By asking for strength to be patient even in a world filled with ringing telephones and night calls.

6. By improving our minds with a constant sense of adventure, yet with a loyalty to our ideals.

7. By schooling ourselves in the art of letting others make their own decisions, contributing advice thoughtfully **ONLY** after having been asked for it.

8. By daring to dream our dreams of things as we **WANT** them and not necessarily of things as they **ARE**.

9. By planning each day with sufficient time for quietness, so that we may better realize our relationship to things Eternal.

10. By reminding ourselves **OFTEN** that age is merely a state of mind, knowing that as long as our hearts receive and *reflect* messages of beauty, cheer, courage, grandeur and understanding from God and Man, that long, we still are young!

"The Bulletin," May, 1948

LOOK: THEY ALL AGREE IN U. N. HEALTH BODY!

The World Health Organization recently ended its first official meeting in Geneva, with delegates from 69 nations in attendance.

The proceedings of the conference didn't make any headlines, but we agree with Dr. Brock Chisholm, its director-general, that the cooperativeness shown by all nations (including Russia and the United States) has real news value.

Nearly all of the assembly's decisions were unanimous! Of course, it is easy to point out that the field of health is not one in which disputes are as likely to occur as they are in the political area.

At the same time, the fact that there is a U. N. agency where nations are working together harmoniously should be recognized for its value.

The WHO is a toe-hold on peace that needs to be used to its fullest advantage. The habit of working together in one area is certain to spill over into others as the mutual respect and confidence it engenders increases.

Tribune, August 2, 1948

SHOES FOR THE HANDICAPPED

A National Odd Shoe Exchange has been established by Miss Ruth C. Rubin, who became aware of a problem confronting thousands when an attack of

infantile paralysis made it necessary for her to wear different shoe sizes. The exchange does not deal in shoes, but registers the name, address and shoe sizes of handicapped persons and puts them in touch with others with whom they may exchange shoes. Its address is 6267 Clemens Avenue, St. Louis 5, Missouri.

DO YOU KNOW

That the Edgar Bergen Foundation has loan funds available to students in nursing schools, and for graduate nurses for postgraduate study?

That the same foundation has made 16 mm. films in color on nursing procedures which are available free of charge to all schools of nursing?

That the Fort Dodge Business and Professional Women's Club has an Educational Loan Fund which is available to high school graduates of Fort Dodge or vicinity, with high standing, satisfactory scholarship, and honorable character? This may be used by a student in a school of nursing.

Iowa State Nursing Association Bulletin, November, 1947

NATIONAL FOUNDATION FOR INFANTILE PARALYSIS, INC.

511 Iowa-Des Moines Bldg.

Des Moines, Iowa

Services: The work of the National Foundation is made possible by the contributions of the American people during the annual March of Dimes campaign. Of the funds raised each year, 50 per cent remains in the county in which it is contributed. This aid includes the payment of medical fees, hospitalization nursing, physical therapy charges, transportation to and from hospitals and clinics and the purchase of orthopedic appliances where required. Chapters also equip hospitals with special apparatus such as respirators and other facilities for the proper care and treatment of polio patients.

The other 50 per cent of the funds raised goes to the national headquarters of the foundation for use in a program of epidemic aid, scientific research and education. To date, the foundation has allocated more than eleven million dollars for research and education.

Who is eligible: All persons who suffer from infantile paralysis and who otherwise do not receive treatment because of lack of funds.

Cost: No cost to the patient.

Where to apply: Cases should be reported to the chapter chairman or secretary in the county where the patient lives. If the county officer cannot be contacted, notify John V. McCarthy, Iowa State Representative, National Foundation for Infantile Paralysis, 511 Iowa-Des Moines Bldg., Des Moines 9, Iowa.

Area: There is a National Foundation Chapter in each county of Iowa. Should the chapter treasury become depleted through treatment expenses, the National Foundation will advance whatever resources are required.

Iowa Health Agencies

SOCIETY PROCEEDINGS

MEETINGS

Dallas-Guthrie Medical Society

The mid-summer meeting of the Dallas-Guthrie Medical Society was held at the Perry Golf and Country Club July 29. Following a one o'clock luncheon, Dr. Adolph Sachs of Omaha, Professor of Medicine at Creighton University, and Dr. Frank Peterson of Cedar Rapids, former chief of surgery at the University Hospitals, spoke. Their subjects, respectively, were "Errors in Diagnosis" and "Problems Following Cholecystectomy."

Linn County

The October meeting of the Linn County Medical Society will be held Wednesday, October 15, deviating from the usual meeting day because of the availability of the speaker, Dr. Max Strumia of Bryn Mawr, Pa. The subject of his discussion will be "Intravenous Protein Feeding."

Upper Des Moines Valley Medical Society

The Upper Des Moines Valley Medical Society held its annual meeting August 12 at Spirit Lake. Speakers from the State University of Iowa were Dr. William B. Bean, Professor and Head of the Department of Internal Medicine; Dr. Nathan A. Womack, Professor and Head of the Department of Surgery; Dr. Raymond R. Remboldt, Assistant Professor of Pediatrics; and Dr. Wilbur L. Miller, Director, Department of Psychiatry. Dr. Thomas J. Dry of the Mayo Clinic, Rochester, Minn., was out-of-state guest speaker.

PERSONALS

Dr. William W. Baird of Cincinnati, Ohio, has recently become associated with Dr. R. T. Spain of Conrad. Dr. Baird was graduated from the University of Cincinnati College of Medicine in 1947 following which he served his internship in a Cincinnati hospital.

Dr. Frank N. Bay of Albia spoke on accident prevention to a Rural Youth group in that city July 28.

Dr. George H. Dolmage, formerly of Buffalo Center, has entered practice in Mason City in association with Dr. Howard D. Fallows and Dr. Charles E. Chenoweth. Dr. Dolmage recently completed specialized training in eye work at the University of Minnesota Hospitals. He will limit his practice to that field.

Dr. John C. Garland has joined Dr. Robert R. Han-

sen of Marshalltown in the practice of medicine. A graduate of the State University of Iowa College of Medicine with the class of 1945, Dr. Garland was separated from the navy in June, 1948.

Dr. William S. Gladstone of Des Moines will become associated with Dr. Emerson J. Steenrod of Iowa Falls, according to recent announcement.

Dr. Artemus B. Henningsen has opened offices in Clinton, limiting his practice to diseases of the skin. Following service Dr. Henningsen has served as chief of dermatology at the Chicago regional office of the Veterans Administration.

Dr. George H. Jardine of Denver, Colo., has become associated with Drs. Alexander S. and Howard G. Beatty of Creston in the general practice of medicine. Dr. Jardine received his medical degree from the University of Colorado School of Medicine in 1947.

Dr. Harper Kerr, who has been associated with his father, Dr. Johnson H. Kerr, at Akron the past two years, will leave soon for Omaha where he will take advanced training in the field of surgery.

Dr. Leo H. Kuker has opened offices for the practice of general and traumatic surgery in Carroll. He recently completed surgical training at Charity Hospital of Louisiana, New Orleans, La.

Dr. Leo H. LaDage of Davenport has closed his offices and is moving to Palm Springs, Calif., where he will become associated with the Desert Clinic.

Dr. E. R. Maresh, who recently completed his residency at Harper Hospital, Detroit, has become associated with Dr. Bush Houston and Dr. Richard H. Mordaunt of Nevada.

Dr. Roger J. Mattice will become permanently associated with Dr. Thomas R. Campbell of Sioux Rapids, according to recent announcement. Dr. Mattice was graduated from the State University of Iowa College of Medicine in 1945 since which time he has been stationed in Japan where he has served as x-ray specialist.

Dr. Cornelius B. Murphy spoke to members of the Alton Rotary Club on July 13. His subject was ailments of the heart, and he illustrated his talk with illuminated x-rays.

Dr. Carl A. Noé of Cedar Rapids recently returned

from Portland, Me., where he taught in a course for doctors specializing in diseases of the eye. The course was under the auspices of the American Ophthalmic Council.

Dr. David M. Nyquist of Eldora spoke at a meeting of the Providence Township Farm Bureau. He discussed both poliomyelitis and heat prostration and answered questions for the group.

Dr. T. R. Pfundt of Fowler, Kan., will begin general practice in Kellogg early in September. Dr. Pfundt is a graduate of the University of Oklahoma School of Medicine and has practiced at Fowler the past two years.

Dr. M. A. Schrader has opened offices for the practice of medicine in Algona. Dr. Schrader is a 1940 graduate of the State University of Iowa College of Medicine and has been practicing in Alabama since the war.

Dr. Emil M. Stimac has opened offices for the practice of medicine in Princeton. A graduate of the University of Minnesota Medical School, Dr. Stimac was recently released from the Army Medical Corps.

Dr. J. H. Thomas of Rock Rapids, who recently completed his internship at a St. Louis hospital, has located in Sibley and joined the medical and surgical clinic at the Osceola Hospital.

Dr. Charles F. Watson has entered into partnership with Dr. Theodore E. Blong of Stacyville. Dr. Watson is a graduate of the State University of Iowa College of Medicine and has been practicing with Dr. B. Raymond Weston and Dr. Egmont H. Barg of Mason City.

Dr. Campbell F. Watts, who has been associated with the Mayo Clinic, Rochester, Minn., the last four years, opened offices in the Higley Building, Cedar Rapids, July 12.

MARRIAGE ANNOUNCEMENTS

Bowen-Maplethorpe

Mr. and Mrs. Leonard Bowen of Muscatine announce the marriage of their daughter, Dorothy, to Dr. Charles W. Maplethorpe, Jr., son of Dr. and Mrs. C. W. Maplethorpe of Toledo, on July 25, 1948. The bride, a graduate of the State University of Iowa School of Nursing, has been employed in University Hospitals. The groom was graduated from the State University of Iowa College of Medicine and is now practicing in Toledo where they will make their home.

DePuy-Coughlan

Miss Jacqueline Jeanne DePuy, daughter of Mr. and Mrs. Charles DePuy of Centerville, and Dr.

Daniel W. Coughlan of Des Moines, son of Mr. and Mrs. James J. Coughlan of Cedar Rapids, were married July 25 at Grace Methodist Church, Des Moines. The bride was graduated from Iowa Methodist school of nursing and prior to her marriage was employed at Iowa Methodist Hospital. Dr. Coughlan was graduated from the State University of Iowa College of Medicine and for the past several years has practiced surgery in Des Moines where the couple will live.

Holck-Smith

Miss Marvel Holck, daughter of Mrs. George Wadell of Waterloo, and Dr. Eugene Smith, son of Mrs. J. H. Smith of the same city, will be united in marriage at St. Edward's Catholic Chapel, Waterloo, September 3. Dr. Smith is a graduate of Creighton University School of Medicine, Omaha, Neb. Miss Holck attended Mt. Mercy College, Cedar Rapids, and Loras Conservatory, Dubuque.

DEATH NOTICES

Butterfield, Rosabell A., aged 87, of Indianola died July 14 in Mercy Hospital, Des Moines, following an extended illness. She was a graduate of the Keokuk Medical College, College of Physicians and Surgeons, with the class of 1907, following which she practiced in Warren County for nearly 40 years. She was a life member of the Warren County and Iowa State Medical Societies.

Furgerson, Lee Burton, aged 49, of Waterloo, died August 9 in St. Francis Hospital, Waterloo, following an operation. A graduate of the State University of Iowa College of Medicine with the class of 1925, Dr. Furgerson had practiced in Waterloo since that time. He was a member of the Black Hawk County and Iowa State Medical Societies.

Norton, Vera Viola, aged 71, of Waverly, died at St. Joseph's Mercy Hospital, Waverly, August 11. Dr. Norton was graduated from the Northwestern University Women's Medical School, Chicago, in 1899. She practiced in Waverly from 1900 to 1912, then moved to Illinois and later to Ohio where she practiced until her retirement in 1941. She was a member of the Bremer County and Iowa State Medical Societies.

Doctors

The Iowa State Medical Library needs all kinds of medical journals. Won't you send yours Freight Collect or Express Old Magazines Collect to Dr. Jeanette Dean-Throckmorton, Iowa State Medical Library, Historical Building, Des Moines 19, Iowa.

The JOURNAL *of the* Iowa State Medical Society

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No. 10

THE RELATIONSHIP BETWEEN OCULAR DISORDERS AND THYROID DYSFUNCTION

Alson E. Braley, M.D., New York City

The problem of exophthalmos associated with thyroid disease is of considerably more importance to the ophthalmologist than it is to the thyroid surgeon. To the thyroid surgeon the presence of exophthalmos is one of the important indications for thyroidectomy. The exophthalmos is, however, probably produced by an entirely different mechanism than the increase in secretion of thyroxin.

Thyroid dysfunction has given rise to many controversial issues. One of these is the mechanism of the production of exophthalmos associated with dysfunction of the thyroid and allied glands. The mechanism of the production of exophthalmos has been the subject of several years of research by Dr. George K. Smelser.^{1, 2, 3, 4, 5, 6, 7, 8} All of this work has been directed toward an attempt to reproduce clinical exophthalmos in guinea pigs. He has not been able to make any positive conclusions, but he has learned a great deal about the mechanisms of exophthalmos which have considerable clinical importance. He has found that the easiest way to produce exophthalmos in the experimental animal is to remove the thyroid and after recovery give the animal crude anterior pituitary extract. This crude extract probably contains the pituitary thyrotropic hormone. A certain number of the animals will develop exophthalmos even after thyroidectomy without the addition of the anterior pituitary hormone. It is possible in normal animals to produce an exophthalmos by two methods, the use of crude anterior pituitary extracts and injection of large quantities of thyroxin. In both instances, however, not all animals respond the same and the percentage of increase in exophthalmos varies in the group of animals. If, however, the animals have been previously thyroidectomized the

exophthalmos is usually prompt. From the experimental data it has not been possible to isolate a pure thyrotropic hormone from the anterior pituitary extract. Many of the purified substances are entirely inactive in producing exophthalmos. A good many interesting experiments have been conducted by Dr. Smelser, and he has been able to decrease the exophthalmos present in guinea pigs by use of both iodine and thyroxin. Since his animals are hypothyroid, it would appear that the use of thyroid would act as a dam against the further release of the pituitary thyrotropic hormone. It is well known that the exophthalmos associated with thyroid dysfunction may be present when large quantities of thyroxin are being released into the blood stream producing all of the symptoms of Grave's disease. If the laboratory findings were then correct, no exophthalmos should be produced unless there is also an associated increase in the secretion in the anterior pituitary. There must then be in Grave's disease an increase in the production of thyroxin as well as an increase in the secretion of the anterior pituitary. The increase in the secretion of the anterior pituitary may be sufficient to produce an exophthalmos. It is, however, possible to have an increase in the production of thyroxin without change in the secretion of the anterior pituitary in which case one would expect to have hyperthyroidism without exophthalmos. Conversely, it is certainly possible to have a marked increase in the secretion of the anterior pituitary without an appreciable increase in the secretion from the thyroid gland. This would give rise then to an exophthalmos associated with a normal basal metabolic rate. These are the cases which are important in the differential diagnosis for the ophthalmologist.

To illustrate one of these patients, the following case is presented: J.A., a 45 year old fireman, suddenly developed bilateral exophthalmos associated with extrusion of the conjunctivae from both palpebral fissures. The protrusion of

the conjunctivae and the exophthalmos increased for three weeks prior to examination. The exophthalmos measured 25 mm. in either eye and there was extreme ecchymosis and edema of the conjunctivae which protruded through the palpebral fissures. The ocular rotation was limited, and the exophthalmos continued to increase in both eyes. He was admitted for study and found to have a basal metabolic rate of -4 . A thyrotropic exophthalmos was suspected, and he was placed on iodine and three grains of thyroid a day. The exophthalmos receded slightly, and the thyroid was increased to five grains daily, but he was unable to tolerate iodine because of nausea. His exophthalmos remained stationary but the edema of the conjunctiva disappeared entirely in a period of three weeks. After approximately three months on thyroid his basal metabolic rate rose to $+4$. It was felt that it should be maintained at a higher level because he was beginning to gain weight and his exophthalmos reading decreased to 21 in the right eye and 18 in the left eye.

Three months later his vision began to improve and his exophthalmos decreased to 17 in the right eye and 16 in the left eye. There was still some limitation in rotation. His thyroid was decreased to three grains a day which seemed satisfactory. His basal metabolic rate remained approximately ± 0 , having some tendency to remain on the plus side. His vision increased to 20/20 corrected, but there was some tendency for his exophthalmos to increase. His thyroid was again increased to five grains a day, and during the next six months his exophthalmos measured 14 mm. in the right eye and 13 mm. in the left eye. His vision was 20/30 and 20/25 and he complained of some discomfort in his eyes. His tension was taken and found to be 40 mm. of Hg. with the Schiotz tonometer. Visual field changes were also noted. One per cent pilocarpine controlled the tension satisfactorily. Thyroid was kept at five grains a day and the patient continued to gain weight. The tension in both eyes remained slightly elevated between 30 and 40 mm. but it was moderately well controlled by 2 per cent pilocarpine. Fields remained stationary but his tension was not well controlled for the next few months.

This type of patient illustrates the exophthalmos produced by the increase in secretion of the anterior pituitary without the counterbalancing effect of increase in secretion of thyroid. There are patients with exophthalmos in which the secretion of the anterior pituitary is the prominent factor and those with severe Grave's disease

with marked increase in the secretion of thyroxin with little or no increase in secretion of the anterior pituitary. In the individuals where there is an increase in the secretion of thyroxin with an associated increase in the secretion of the anterior pituitary, there may be considerable confusion as to which is primary, the increase in thyroid secretion or the increase in anterior pituitary secretion. In cases of Grave's disease associated with exophthalmos the thyroid secretion is important and the removal of the thyroid will result in a decrease in secretion of this gland associated with a decrease in secretion of the anterior pituitary. If, however, the increase in secretion of the anterior pituitary is primary, the removal of the thyroid will produce a persistent increase in the exophthalmos. The increase in thyroid function in these cases is an effort on the part of the thyroid gland to prevent the increase in secretion from the anterior pituitary.

In these latter cases the ophthalmologist can be of considerable assistance in differential diagnosis. There are, of course, many borderline cases in which the primary secretion may be from both glands. The differentiation by the ophthalmologist is based on the type of eye findings. Patients with Grave's disease, where the thyroid secretion is primary, show a lag of the upper lids, with marked spasm of Müller's and Landström's muscles which produces the exposure of the upper and lower part of the cornea. The muscle balance in primary thyroid disease is normal and double vision is rare. When exophthalmos is produced by primary dysfunction of the anterior pituitary, the exophthalmos may be marked but there is only slight lid lag and very little spasm of Müller's and Landström's muscles. There is frequently some edema of the bulbar conjunctiva, and muscle imbalances and diplopia are the rule. The exophthalmos is usually the same in either type. Borderline patients should be given a trial with thiouracil or propyl-thiouracil before thyroidectomy even though the basal metabolic rate may be elevated. It is important to determine the degree of exophthalmos and muscle imbalance during the trial of thiouracil. If both the muscle imbalance and the exophthalmos increase, the disease should be considered as primary in the anterior pituitary.

The problem of early diagnosis of exophthalmos associated with thyroid dysfunction has been discussed and an attempt made to differentiate between the cases of exophthalmos associated with Grave's disease and the exophthalmos produced by the thyrotropic hormone of the anterior pitui-

tary. A means of differential diagnosis has been presented. There may also be an associated increase in intra-ocular tension in many individuals with thyrotropic disease. The mechanisms for the production of increase in intra-ocular tension are not understood. They may be associated with emotional disturbances through the medium of the sympathetic nervous system. This may produce glaucoma and contribute to the exophthalmos. The fact that some of these patients with thyrotropic exophthalmos develop a rise in intra-ocular tension would indicate that it may be associated with some neurovegetative process.

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FACTORS IN THE DEVELOPMENT AND GROWTH OF CHILDREN'S PERSONALITIES*

Charles C. Graves, M.D., Des Moines

One may approach the subject of factors in the growth and development of the personalities of our children from at least three different points of view. The first two I shall just mention in passing, and then I shall discuss the third viewpoint which is in keeping with the approach I represent.

The first point of view may be referred to as the autocratic or environmental. This approach assumes that we have an adequate culture in which we can fit our children, that the child should be treated more or less as a lump of clay to be molded according to the circumstances and dictates of his environment. I do not accept the premises underlying that standpoint. I do not believe that we have, at present, the culture that can bring out the best in the development of the child, and since we do not have the best of cultures, we naturally should not impose in

toto the present culture upon the growing personalities of our children.

The second point of view may be entitled laissez faire which assumes that the inborn, inherent factors are fully capable of their own development, with a minimum of interference from the environment. This viewpoint, I believe, lies behind many of our progressive systems of education which believe in allowing the child to express himself on any and all occasions.

The third approach with which I am quite sympathetic is called the developmental, which does not stress the environment at the expense of the individual or vice versa. This viewpoint emphasizes the relationship which exists between the growing child and his environment of persons and things. In stressing this relationship, one likes to think of it as a vital, spontaneous, dynamic one.

With this as a background, now let us look at a woman who has just learned that she is pregnant. Naturally, she is going to be concerned with her diet, rest and other factors which her doctor points out to her. In addition to all that science is now doing for our pregnant women, I feel that several factors should be emphasized more than they are today.

The mother should realize that she has growing within her, in a very intimate personal way, a new life which is functioning at the narcissistic stage, if you desire technical terms, or, as I like to point out in speaking to various audiences, at the "taking" phase of existence. Nature allows this new life to take and to keep on "taking" for a period of nine months, because the "taking" is used in the interest of growth which is in preparation for the completion of the cycle which begins with "taking" and ends with "giving." Another important element in this approach is the realization that not only is the embryo or fetus "taking," but as far as we can determine, is "taking" with pleasure and gratification. Now the reason why the pregnant woman should become acquainted with these principles early in her pregnancy is so that she may prepare herself for the kind of care which she should give her baby after it is born. If the mother-to-be understands how basic these teachings are, then she can prepare herself to continue them after her child is born.

Some psychiatrists feel that the baby in utero has every reason to feel omnipotent and all powerful, as his desires are satisfied before they can even arise. Life, so to speak, is handed to them on a silver platter in a quiet, secluded, dark, moist world which is completely adjusted to the condi-

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tions of growth and development. We who have explored the fantasies and dreams of our adult patients believe we can pick up fragments from that intra-uterine period of their lives. We also feel that many of the myths and folklore which center in the Utopias and the Gardens of Eden really arise in the longings of people to return to that stable existence which once they had known when they were babies in their mothers' wombs.

If this be true, then it is important for the pregnant woman to understand this phase of the child's development so that she may more intelligently cope with it. She not only has to understand this approach, but she must prepare herself for the carrying out of certain activities if the baby is to continue living as adequately as he did for the first nine months of his life. She must discuss with her doctor the question of breast feeding. This isn't simply the matter of mother's milk versus cow's milk, but it is the question of creating a feeding situation which will give the baby the opportunity for maximum pleasure and gratification. If this vital, dynamic relationship which started with the fertilization of the egg is to continue, the baby must not only obtain his satisfaction in feeding but there should be a pleasurable feeling on the part of the mother. When both mother and baby are satisfied, the mother at giving the milk and the baby in taking it from her breast, then the child is developing under those conditions which we believe are best for his growth. Not only should the child have a chance for breast feeding but he should not be regimented, as is the practice common today. The mother should not be an executive carrying out the rules and regulations as determined by the experiences of society. When the mother is alert to the cues and signals which the baby shows when he needs to be fed, she then will permit the child to nurse according to the requirements of his own individual nature and will satisfy his demands. Demand feeding should be the order of the day.

Another thing which the mother should discuss with her doctor is a rooming-in arrangement at the hospital. As soon as the baby is born and properly cared for, he should be placed in a bassinet which can be rolled to and from the mother's bedside. Immediately the mother begins to learn the routines which are inherent in the care of her new baby. As her strength increases she can do much for her baby in the way of feeding, dressing and caring for his toilet needs. By the time she leaves the hospital she has become acquainted with her child and

she does not take home a stranger. With the baby sleeping in the bassinet at the side of her bed, a mother will become alert to its needs. The hospital will not have to worry about the number of visitors she will have, for the mother will see to it that no visitor will disturb the rest of her child. Not only does the mother learn many necessary things but she helps the baby to gratify its basic functions with pleasure and satisfaction. Through these satisfactions the child is laying a firm foundation for a stable personality. When living with a mother who is sensitive to his needs, the baby knows that he is wanted, loved and the center of a secure world.

As he grew in an adjusted environment in utero, so should he continue to develop in a similar situation in the hospital and the succeeding years in his own home. The mother who is aware of this relationship to her child, based upon his biologic needs, will learn a great deal about the type of personality which her child has. This personality is relatively simple in the first year of his life. As the child matures and becomes more complex, she will then be in a position to cope with each new phase as it appears in his developmental profile. What has been said about sleeping and feeding applies as well to his toilet habits, to his bathing and dressing and to his needs for contacts with others. Each child is an individual and, although similar to other children, grows in his own peculiar way.

If a mother can continue this basic dynamic relationship, the child not only grows properly but establishes appropriate relationships with his siblings, with his school chums and even in adult life maintains this type of relationship with others. If the fluctuations of his own make-up are given proper consideration in the first five years of his life, then he will become a real person who knows what is expected of him by society. He learns restraint and, most important of all, he learns how to give. When the individual has learned to give and take, then he is mature and able to assume the responsibilities which life will impose upon him.

In some communities, I am told, there are nursery schools to which children may go which do not require a rigid attendance. These schools determine the needs of the child. Perhaps in the beginning only one or two hours a week in attendance is necessary. These schools respect the personality of the child, adapting the curriculum to its needs. They do not have some preconceived notion of what the child should learn. This principle should not only govern the nursery schools with their guidance teachers

but should be carried over into the kindergarten and primary schools. The important thing is to keep the individual as alive, vital and dynamic as he was when he started life. The child who is well adjusted, who knows his own limitations, who can easily give as well as take, is one who can enter into the rich relationships which life provides, and who does things because he loves to do them. He is not only interested in satisfying his own needs but he is equally interested in meeting the demands of others. When puberty has arrived, he will be ready to give up his home, to give up the early attachments which he has made with his parents. He will be ready to move into a new world, preparing himself for the time when he will meet someone he can love and devote himself to as he did to his mother and father. Such people will be ready for developing and maintaining those fundamental relationships which will make marriage a joy and pleasure and which will create stable homes, where their children can develop, as they once had a chance to develop. We need a culture which will respect the needs of our individual children. For the maintenance of such a culture, we require parents, teachers, etc., who can enter into the basic relationship of taking and giving with pleasure and who will develop their children to give with pleasure and satisfaction. When that has been achieved then we shall have mature adults, and then this means that the affairs of the world will be conducted along adult lines.

ABDOMINAL SURGERY IN CHILDHOOD

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In such a brief discussion it is obviously impossible to cover adequately the many conditions implied by the title. It will be sufficient, however, to mention briefly some of the more common surgical conditions of childhood, together with some discussion as to the prevalent trends in the surgical treatment of these conditions.

The surgery of children will for the most part be performed by the general surgeon, in many cases working as one of a team with a general practitioner or pediatrician. It is by means of this close cooperation between the pediatrician and the surgeon that a reduction of surgical mortality has been effected. The pediatrician has contributed to this decreasing mortality by his greater efforts at earlier diagnosis of surgical conditions; his appreciation of the ease with

which disturbances are brought about in the electrolytic and fluid balance of the child and by methods of correction of such disturbances. Surgeons, too, have made their contribution over the years by the development of operations such as the Ramstedt and by greater refinement in surgical technic.

Ladd and Gross have emphasized that a surgeon must not look upon the child as a diminutive man or woman but must recognize that he is dealing with an individual who is subject to most of the surgical conditions found in older individuals and who, in addition, presents certain congenital anomalies which are seldom encountered in later life.

Congenital hypertrophic pyloric stenosis is the most common condition which requires surgical treatment in the first few months of the child's life. In this condition, the cause of which still remains undetermined, there is hypertrophy of the smooth muscle fibers of the pyloric muscle, causing a narrowing of the lumen in this area.

Vomiting is the most prominent symptom and is the one which usually first attracts the physician's attention. It most commonly begins during the second or third week of life, although occasionally it is first noted as late as seven to ten weeks. The vomiting is characteristically projectile, occurs frequently and tends to persist despite therapeutic methods ordinarily effective in the control of vomiting due to gastro-entero spasm and improper feedings. Most of the other symptoms of pyloric stenosis are a direct result of the vomiting. The infant usually passes only one or two small stools daily; he seems to be continuously hungry; he fails to gain weight and later loses weight at an alarming rate and eventually presents the weakened, dried up appearance so often seen. Examination of the abdomen, particularly immediately after feeding, may show waves of gastric peristalsis passing from left to right. Palpation through the abdominal wall will, in a high percentage of cases, demonstrate the pyloric tumor in the right upper quadrant. The presence of such a tumor is pathognomonic of pyloric stenosis.

Pylorospasm is the condition which must most frequently be ruled out. This condition usually responds satisfactorily to the use of atropine and phenobarbital.

The time of onset of the vomiting is of considerable importance because the vomiting of intestinal obstruction due to atresia or stenosis of the duodenum or intestine produces vomiting within the first day or two of life.

Since the symptoms and signs in most cases

of pyloric stenosis are sufficient to establish the diagnosis, roentgenologic examination is usually not necessary. An occasional case, however, is encountered in which the diagnosis is not so evident, and here x-ray examination of the stomach may be very helpful.

Gradually, with the passing of time and the accumulation of more and more experience since the development of the Ramstedt operation, the trend has been toward surgical treatment so that today practically all cases of pyloric stenosis are treated by surgery after the necessary preoperative preparation. Medical treatment today is intended chiefly as a means of eliminating cases of pylorospasm and as a preoperative measure rather than a definitive treatment of the condition known as pyloric stenosis. In no other surgical condition of infancy has such great strides been made as since the development of the Ramstedt procedure. Since the adoption of pylorotomy as the treatment of choice in pyloric stenosis, further reduction in mortality has been accomplished by better preoperative care.

Preoperative care consists chiefly in the adequate administration of parenteral fluids to restore normal electrolyte and fluid balance. Congenital hypertrophic pyloric stenosis is not a surgical emergency, and sufficient time must be taken to restore these conditions to as nearly normal as possible before surgery is undertaken. The length of time necessary to restore the baby to optimal condition will vary depending upon the degree of dehydration present and the length of time the vomiting has been in progress. The dehydration and alkalosis can usually be overcome by the intravenous use of 10 per cent dextrose in saline and subcutaneous Ringer's solution. Amigen subcutaneously or transfusions of whole blood may be necessary to correct hypoproteinemia.

The technic of the Ramstedt operation is standard and well known. The most common accident in its performance is accidental perforation of the mucosa at the duodenal end of the incision. This should be guarded against because if not discovered it will cause peritonitis. Simple suture of the perforation is all that is required, and when recognized and so treated, this accident does not often cause serious results.

Careful closure of the abdominal incision is important if wound separation and evisceration are to be prevented.

Feedings by mouth are usually instituted within a few hours after surgery and adequate fluid intake maintained by parenteral fluids. In a rather large number of cases there may be vom-

iting after the first few feedings, but only an occasional case will continue to vomit. In a few cases reoperation has been necessary and there was found incomplete division of the pyloric sphincter.

The treatment of this clinical entity has presented one of the greatest advances of surgery. Prior to the general adoption of surgical treatment there was a mortality rate of 50 to 75 per cent. At the present time certain clinics report a mortality rate below 1 per cent.

This is due to earlier recognition of the condition, a discontinuance of the attempt to treat the condition medically, perfection of the technic of the Ramstedt operation, and better preoperative and postoperative treatment.

Intussusception is second in frequency only to acute appendicitis as a surgical condition in infancy and childhood. This condition carries with it a mortality rate which varies directly with the duration of the condition. Improvement in the mortality rate can be brought about chiefly by earlier diagnosis so that surgery can be done before the intussusception becomes irreducible and before a portion of the bowel becomes gangrenous.

In the greater percentage of cases, no definite anatomic or pathologic variation has been found to account for the initiation of an intussusception. In only about 5 per cent of cases are such conditions as a Meckel's diverticulum or intestinal polyp found to cause the intussusception.

Intussusception may occur at any age but it is primarily a disease of infants in the first year of life with the peak of incidence being at about five months.

Its symptoms are usually sufficiently severe and distinctive that the diagnosis should suggest itself early to the attending physician. Colicky, recurring abdominal pain in a previously healthy child under one year is usually the initial symptom. Between paroxysms of pain the child may appear fairly happy. Vomiting is usually a fairly early symptom and may be repeated and severe. The third important symptom is the presence of blood in the stools. This may be as a gross frank hemorrhage or may appear as only a little blood stained mucus on the diaper or on the examining finger.

The physical findings and general condition of the child will vary with the duration of symptoms. Early in the condition the child may appear in good physical condition, whereas later there will be evident dehydration and shock.

The significant finding on physical examination is the presence of an abdominal mass whose

location will vary with the extent of progression of the intussusception. Rectal examination should never be omitted. At times the appearance of blood on withdrawing the examining finger is the first indication of bloody content in the bowel; at other times the intussusception has progressed so far that it is possible to palpate it per rectum.

Roentgenologic examination is usually not necessary, but in doubtful cases a barium enema may present a typical picture if the intussusception has progressed into the colon.

The treatment of intussusception should be surgical and the surgery should be done as soon as the necessary preoperative preparation has been completed. If dehydration and shock are present, as they usually are, except in very early cases, the administration of adequate fluids to combat dehydration and alkalosis is necessary. At times transfusion of plasma or whole blood is necessary in the critically ill patients. The use of the Wangenstein suction preoperatively will help to empty the stomach and prevent the aspiration of stomach contents.

It is axiomatic that in intussusception one should do the least possible surgery necessary to relieve the condition. There is often a desire to remove the appendix because it has been traumatized in the intussusception. This should not be done unless its blood supply has been jeopardized. If the intussusception can be completely reduced and all parts are viable, nothing further should be done. Operative attempts aimed at preventing further recurrence of the intussusception are probably futile and the incidence of recurrence is quite small.

In some cases it may be impossible to reduce the intussusception, or else if completely reducible there may be gangrenous changes in the bowel wall which demand its removal. These cases carry a very high mortality. The trend at present seems to be toward a resection and primary anastomosis. This apparently is justified inasmuch as the infant tolerates an enterostomy very poorly.

Acute appendicitis is the most common lesion requiring intra-abdominal surgery in childhood. While the appendicitis is the same disease in the child and the adult, its diagnosis in the child is much more difficult. In the child it tends to run a more rapid course with a lesser tendency toward localization.

The history of the attack is similar to that of the adult, but delayed diagnosis is more common because an appreciation of the location and severity of the pain is more difficult due to the

age of the patient and his relative inability to express his sensations.

The main conditions which must be considered in the differential diagnosis are bronchopneumonia, pyelitis, primary peritonitis, mesenteric lymphadenitis and occasionally intussusception.

In the acute unruptured case there remains no question but that immediate surgery is the only proper method of treatment.

There still remains some divergence of opinion as to the proper treatment in cases of generalized peritonitis. The trend at present is for adequate preoperative preparation which may require several hours and then follow with appendectomy. The subject of drainage still remains as a matter of preference and experience of the individual surgeon.

A definite appendiceal abscess is indication that the patient is localizing his infection, and surgery may be delayed somewhat longer than in the case which does not show localization. After any existing dehydration has been corrected, drainage done carefully to avoid spreading the infection is indicated. Appendectomy may or may not be feasible at this time. If not done at this original operation, one should make certain that the patient returns for appendectomy in six to eight weeks.

The postoperative care is particularly important in the ruptured cases. Here we utilize the Wangenstein drainage, Fowler's position, the oxygen tent, parenteral fluids, sulfonamides and penicillin. Particular stress should be laid upon the importance of penicillin in adequate dosage as a factor in lowering the mortality rate in cases of ruptured appendicitis.

Meckel's diverticulum may give rise to trouble by reason of acute inflammation in which the symptoms closely resemble acute appendicitis, and usually this is the preoperative diagnosis. It should always be automatic with the surgeon to look for a Meckel's when the pathology of the appendix is not sufficient to explain the symptoms.

A Meckel's may act as the cause of an intestinal obstruction, and at times an inverted Meckel's may be the apex of an intussusception.

Perhaps the most interesting manifestation of a Meckel's is intestinal hemorrhage. This is usually due to aberrant gastric mucosa in the lining of the diverticulum with the development of a peptic ulcer in the diverticulum or in the adjacent ileum. In any unexplained intestinal hemorrhage, the presence of a Meckel's must be considered.

Amniotic hernia is a rather rare condition occurring at the umbilicus in which there is a herniation of abdominal viscera into the base of the umbilical cord. The sac covering the viscera is very thin and consists only of peritoneum internally and amniotic membrane externally. It is important that this anomaly be recognized immediately because the thin covering membrane rapidly dries and may rupture leading to evisceration and fatal peritonitis. Radical and immediate operation on the first day of life is practically the only chance which the infant has. It is surprising how well these infants tolerate surgery at this time.

Congenital atresia of the intestine is due to an error in the embryologic development of the intestinal tract. It occurs in two forms, one in which the lumen is completely blocked by a diaphragm or septum and, second, the type in which the intestine ends as a blind sac. The atresia may occur at any level in the intestinal tract and may be multiple. Symptoms of intestinal obstruction begin on the first day of life and the symptoms vary depending upon the level of obstruction. Untreated cases rarely live over a week; surgical treatment has also had a high mortality but some cases are being salvaged and this is the only method of treatment which has any possibility of saving the infant's life. Surgery consists of a lateral anastomosis around the area of atresia. The fluid loss following enterostomy is very poorly tolerated by infants so that this method of treatment has had very little success.

Incomplete rotation of the intestine is due to an arrest in the development and rotation of the midgut which leads to obstruction of the second and third portions of the duodenum. As a part of this condition of arrested development there is commonly a short mesentery of the small intestine, and volvulus of the small intestine is likely to occur. Unless one is familiar with this double condition, the surgeon may reduce the volvulus only to have the patient die from unrelieved duodenal obstruction. A knowledge of the embryologic development of the gut is a necessary prerequisite for an understanding of the pathology of these conditions. Upon such a knowledge has been based the successful surgical treatment advocated by Ladd and Gross.

The surgeon and pediatrician are frequently consulted by parents as to the best method of treatment of umbilical or inguinal hernias in children. Many of the smaller umbilical hernias can be cured by proper strapping. The larger

umbilical hernias which persist up to the age of $1\frac{1}{2}$ years will probably require surgery.

Inguinal hernias may often be held in place by a yarn truss. Ladd and Gross state that if a hernia is found after 6 months of age almost no hope for a natural cure should be entertained. The preferred operation of inguinal hernia in children is a high ligation of the sac with repair of the inguinal canal but without transposition of the cord. Transposition of the cord is not advocated because of the possibility of injury to the spermatic vessels and subsequent testicular atrophy.

Incarceration or strangulation demand immediate surgery.

An important factor in securing primary healing of these wounds in infants is to prevent soiling of the wound with urine. Adequate sealing with adhesive tape or a collodion dressing have been found effective in this respect.

Summary

There has been a noticeable decrease in mortality rates in pediatric surgery in recent years and both pediatricians and surgeons are responsible for this improvement. A better understanding of embryologic arrests in development has been an important factor. Added to this has been an appreciation by the pediatrician of the seriousness of a disturbance of fluid and electrolytic balance in these small patients. The proper administration of the fluids required to correct this imbalance and in particular, the development of skill in giving fluids intravenously in such small veins, is to be commended. Harmonious teamwork between the pediatrician and surgeon, each contributing of his own particular skill and knowledge, has been followed by earlier diagnosis, better treatment and a decreased mortality. Refinements in surgical technic, the greater use of oxygen in seriously ill patients, gastric decompression, the use of the sulfonamides, penicillin and streptomycin have all been milestones marking the steady forward progress of the practice of surgery in children.

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RHINOPLASTIC SURGERY—SOME GENERAL CONSIDERATIONS

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Since the nose is the most conspicuous facial feature, it is impossible to overestimate the psychic trauma that may result from one that is even slightly abnormal in appearance. Of even greater importance is the fact that any interference with its respiratory function leads to great annoyance and discomfort as well as obstruction to proper drainage. It has been learned from clinical experience that frequently the pathologic nasal anatomy that causes a nose to be unsightly also causes faulty physiologic activity; in such cases plastic repair gives the double result of improvement in appearance and function.

For the past several years plastic surgery has had prominent mention in the popular press. This publicity has presented the paradox of being both beneficial and detrimental. It has been of benefit in that the attention of both the profession and the general public has been brought repeatedly to this field with consequent rapid advances in many of its aspects. For example, nasal plastic procedures are now done with the expectation of almost uniformly pleasing results.

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Fig. 1. Skeletal structure of normal nose.

On the other hand detriment has occurred because the impression has been left that any part of the body can be reconstructed so that it is better in form and function in all cases—whether the defect be congenital or acquired. To the initiate it is a well known fact that such a goal is often unattainable in such instances as the total reconstruction of an auricle, repair of a large facial defect, or replacing of a lost eyelid. The erroneous opinion that the surgeon can always produce perfect results in any type of



Fig. 2. Skeletal structure of hump nose.

case frequently leads to bitter disappointment on the part of the patient and his family physician so that they both come to regard all plastic procedures with distrust.

For some reason known only to themselves the authors of popular articles and stories have expounded the myth that all reconstructive work must be performed without anesthesia; nothing could be further from the truth. Many persons have become so convinced that they can benefit from this type of surgery only at the cost of excruciating pain that they do not present themselves as patients until after long hours of mental anguish because of this unnecessary fear. Rhinoplastic surgery can be done under either general or local anesthesia without causing the subject



Fig. 3. Skeletal structure of saddle nose.

pain during or after the operation. Because total lack of painful sensation of the internal and external nose can be readily attained by blocking the easily accessible sensory nerve supply we prefer the use of local anesthetic agents in nearly all cases, reserving general anesthesia for children or highly excitable adults.

Due to the external nose being a hollow organ supported by a thin scaffold of bone and cartilage which is covered by loose elastic skin it follows that any change in the nasal skeleton will cause a corresponding change in the overlying soft tissues. As these covering tissues are easily elevated from the supporting structures through intranasal incisions, it is not difficult to gain direct access to the nasal bones and cartilages so that parts of them may be removed,



Fig. 4. Skeletal structure of twisted nose.

their position realigned, or grafts added according to the demand of the existing deformity.

Three of the most common types of nasal deformity seen are:

1. The "hump" nose.
2. The "saddle" nose.
3. The twisted nose.



Figure 5A.

The first two may be congenital or acquired while the last abnormality is nearly always caused by lateral trauma to the nose followed by improper reduction of the resulting fracture.

The basic faulty anatomy of the aforementioned nasal conditions can be visualized by comparison of figures 1, 2, 3, and 4.



Figure 5B.

It would seem a simple matter to determine at a glance whether any nose was normal or abnormal and with the same glance to ascertain what was needed to correct it. However, in practice it is often impossible to make a diagnosis of the total nasal deformity without detailed study because one defect may camouflage another. For instance, the presence of a large hump may hide the fact that a nose is excessively long while the presence of a "saddle" lends an illusion of shortness. Thus it is helpful to make exhaustive examination of specially prepared photographs and masks of the patient before embarking upon the surgical correction of a deformed nose.

To alter all noses so that they fit one rigid pattern would, of course, seldom meet the requirement that in each particular case the nose must "fit" the rest of the individual's face. Nevertheless, the artists have taught us that a nose must fall within slightly variable limits if it is to be in harmony with the other facial charac-

teristics. We are left then with the fact that there is no such thing as an "average nose" or "average face," but these words must be used for lack of better terms.

In profile the "average" nose should project from the face at an angle of 30 to 38 degrees. By mapping this angle of *profile projection* (B-R-D) in figure 5 it can be ascertained with certainty whether it is necessary to reduce or add to the nasal skeleton to make it fall within normal limits. This case demanded the removal of a large hump consisting of nasal bones and upper lateral cartilages to reduce angle B-R-D. The analysis of a "saddle" nose will reveal that the portion of the dorsum above the lobule must be built up with a graft to increase the angle of profile projection. This graft of bone or cartilage is inserted into the bed formed over the nasal skeleton after intranasal elevation of the soft tissues.

The proportionate length of a nose is indicated by the angle formed between it and the upper lip. This *septo-labial angle* (E-G-D in figure 6) should measure 90 to 105 degrees, depending upon the shape of the face, the height and the sex of the patient. In this case it was necessary to shorten the nose to increase the septo-labial angle; shortening is accomplished by removal of a wedge of cartilage from the lower end of the septum.

A full face photograph (figure 7) will demon-

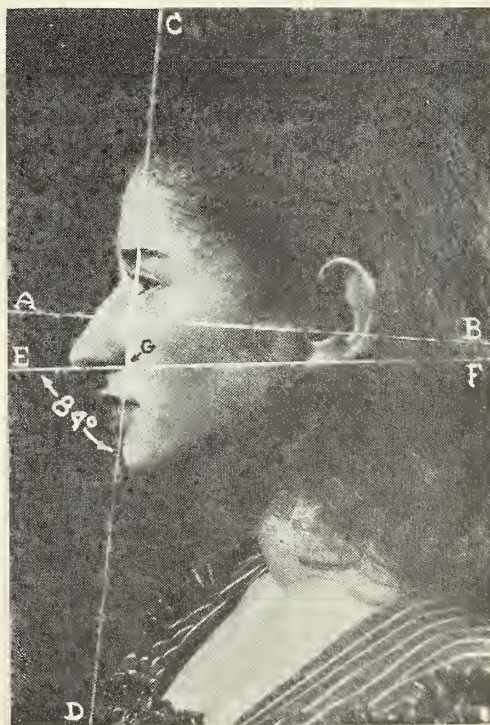


Figure 6A.

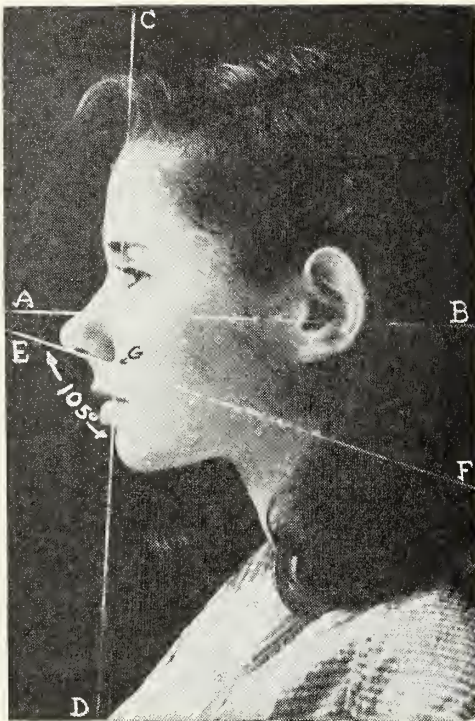


Figure 6B.

strate the nasal width and whether or not the nose occupies the midline of the face. The "average" nose should lie within the bounds of lines

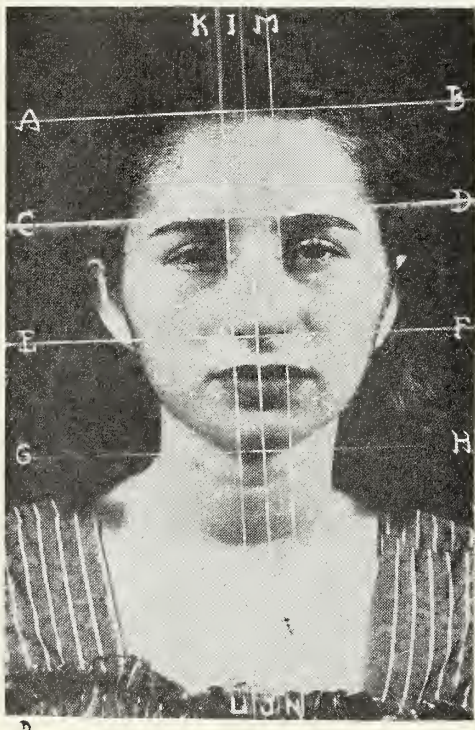


Figure 7A.

(K-L and M-N) drawn downward from the inner canthi while the straight dorsum follows a line (I-J) midway between and parallel to the inner canthal lines. When necessary the width can be reduced and the entire nose shifted to the midline by weakening the nasal arch with saw cuts partly through the frontal processes of the maxillae and parallel to the sides of the nose followed by fracturing the nasal elements medially.

In the case of a twisted nose the above described lateral osteotomies and repositioning of

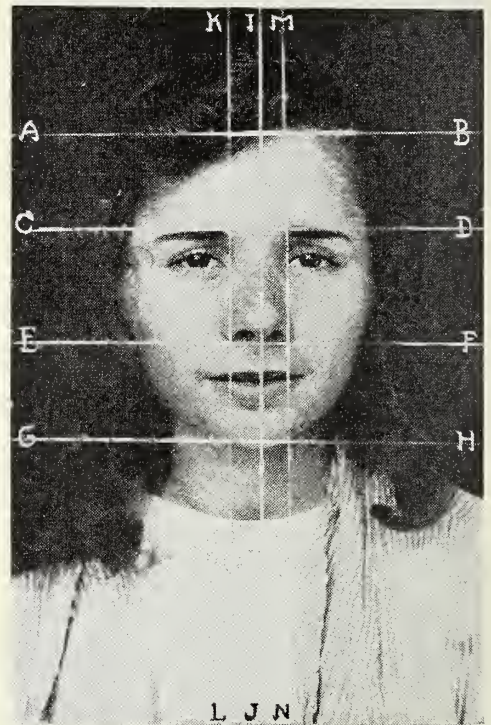


Figure 7B.

the supporting structures may be all that is needed.

It should be mentioned that after the removal of a hump there always remains a broad, flat defect on the dorsum of the nose which must be obliterated immediately by fracture of the nasal skeleton toward the midline.

In spite of the lack of experimental evidence and contrary to the opinions of some recognized authorities it is worth repeating that a large percentage of patients notice improved nasal respiration after rhinoplastic procedures that were done primarily for esthetic reasons. These patients often volunteer the information that they breathe more comfortably and are agreeably surprised at their improved nasal function.

Summary

1. A brief and generalized discussion of three common types of external nasal deformities has been presented.

2. The personal belief that patients subjected to rhinoplastic surgery benefit from more nearly normal nasal function as well as improved appearance is emphasized.

Discussion

Jack V. Treynor, M.D., Council Bluffs: Dr. Huffman has emphasized the need for harmony between the reconstructed nose and the face as a whole. This cannot be stressed enough. There can be no justification for the occasional practice of allowing the patient to choose from pictures of glamour girls (and men) a "nose" which may be unsuitable and inharmonious. Further, very few of us possess the artistic sense to anticipate a harmonious result without recourse to some basic system of ideally related dimensions and angles.

There are other general considerations which Dr. Huffman might have included. The best planned surgical correction may give a disappointing result if hematoma, infection or both be allowed to occur. Incisions and sutures so placed as to encourage rather than interfere with drainage and proper post-operative compression will minimize such complications. Penicillin given preoperatively and postoperatively will give the surgeon considerable peace of mind and will reduce surgical infection but will not prevent the distortion which may follow hematoma.

RUPTURE OF LIVER ABSCESS INTO HEPATIC VEIN CAUSING SUDDEN DEATH: REPORT OF CASE

Carl A. Jacobs, M.D.,

Joseph A. St. Onge, M.D.,

Allen C. Starry, M.D.,

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A cursory review of the recent literature fails to reveal a report of the rupture of a liver abscess into a large venous channel causing sudden death.

Twelve weeks before entering the hospital, W. K., a 53 year old white male, experienced discomfort in the right upper quadrant and mid-line of his abdomen. This pain was rather dull and transient in character and was not disabling. It was not related to meals and was persistent but for short periods, often lasting only a few seconds. About eight weeks before admission he began having severe chills coming on about once each week, and lasting from 2 to 30 minutes. Following each chill he was feverish and unable to work for about a day. He consulted a physician about six weeks before admission and

he was given 300,000 units of penicillin in oil intramuscularly daily for 12 days. Two weeks before admission he began having as many as two chills per day, lasting up to an hour. Inappetence was persistent and the right upper quadrant discomfort and pain became more severe and continuous. He was never jaundiced. Bowel habits were normal. At the time of admission to the hospital on Dec. 17, 1947, he had lost 40 lbs. of body weight. Barium studies of the upper gastro-intestinal tract were done in December, 1947, and were reported negative.

This man was separated from his wife whom he married late in life. There had been no pregnancies. A positive blood Wassermann was noted in September, 1947, at which time he had a Neisserian urethritis. Livelihood was earned by operation of a grain combine on a yearly route beginning in Texas and extending toward Canada.

Examination findings as recorded on the sixth day of hospitalization by surgical consultant (C.A.J.) follow: Patient was having several chills each day but had no other special complaints. Appetite was fair, stools normal. There was evidence of recent weight loss. Heart was normal; blood pressure 130/85; pulse 90. There was flaring of the right costal margin and a fullness in the upper quadrant of the abdomen. Liver was felt about three finger-breadths below the costal margin. It was slightly tender but not irregular or nodular. The right diaphragm was limited in its normal movements to no more than 50 per cent of its range. A few scattered but fairly persistent rales were heard in either lung field. Discomfort on examination of the right costo-vertebral angle plus the enlarged liver made it impossible to feel the right kidney. Genitalia were normal, rectal examination negative, and neuro-muscular examination negative except for absence of patellar reflexes. No lymphadenopathy was noted.

Laboratory Examination

Laboratory findings were: blood Wassermann doubtfully positive; blood Kahn positive; urinalysis on admission and repeated six days later negative. Results of blood studies on admission were: hemoglobin 85 per cent; leukocytes 6,400, with a differential count of 76 per cent polymorphonuclears, 18 per cent lymphocytes, 4 per cent eosinophils, 1 per cent basophil, 1 per cent mononuclear. On the sixth day of hospitalization leukocytes were 18,400, polymorphonuclears 77 per cent, immature polymorphonuclears 2 per cent, lymphocytes 13 per cent, eosinophils 2 per cent, mononuclears 6 per cent. Red cells

were normal. Smears taken at time of chills were negative for malaria. Stool examinations were negative for ameba or cysts. Sedimentation rate was 28 mm. in one hour. Blood cultures showed gram positive diphtheroids on the fourth culture. Fluoroscopy and x-ray of the right diaphragm were reported as negative; spinal fluid cell count 2; globulin 0; protein 22 mg. per cent; gold curve 2234443210; Wassermann negative.

Progress

Upon admission this man was started on sulfadiazine, 1 gm. every four hours. He appeared to lose ground rapidly and the sulfadiazine was stopped and penicillin, 50,000 units every three hours was substituted on the seventh hospital day. Clinical diagnosis of subphrenic or hepatic abscess was made. He was cross-matched for blood transfusions and plans had been completed for surgical exploration of the right subphrenic region through the bed of the twelfth rib. While at stool the patient noticed sudden shortness of breath. He returned to bed and died almost instantly.

Autopsy Findings

There was an abscess of the right lobe of the liver extending onto and invading into the anterior surface of the right kidney. The abscess was about 25 cm. in diameter and had destroyed more than 50 per cent of the right lobe of the liver. Pus was odorless, thick, yellowish, and contained some reddish flecks of disintegrating liver and blood. There was no definite abscess wall other than a layer of necrotic liver tissue. The abscess had ruptured right into the right hepatic vein and at this point there was evidence of an organizing thrombus composed of blood elements and abscess wall. The diameter of this branch of the hepatic vein was approximately 1.5 cm. The vena cava, the entire right heart and the pulmonary arteries were filled with a mixture of thick pus and blood. The lungs showed multiple abscesses and infarcts up to .5 cm. in diameter. These appeared to be both relatively new and in other cases of several days' duration. The right kidney was flattened and there was erosion into the anterior surface by the abscess, but the parenchyma and pelvis were normal. Stomach, gallbladder, left kidney and the small and large bowel were normal. There were no adhesions nor evidence of healed lesions about the colon. The spleen was twice normal size and rather soft.

Microscopic examination showed acute and chronic cellular infiltration in the necrotic liver tissue which served as the abscess wall. No

ameba or amebic cysts were found. Lungs showed multiple infarcts and small abscesses. Kidneys showed cloudy swelling. The aorta showed some sclerosis but was not typical of syphilitic aortitis. Pus from the abscess was cultured and showed diphtheroids identical with that grown on blood culture.

Summary

This case was one of liver abscess which had eroded the main radical of the hepatic vein to the right lobe of the liver causing sudden flooding of the right heart and pulmonary arteries with pus. There was evidence of previous seeding of the lung fields, probably on a similar basis. Cause of the abscess is not determined. The culture does not help to determine its source. Though the colon was negative, and although no ameba or cysts were found, a diagnosis of amebiasis may be entertained; a single abscess, invasive in nature, located in the right lobe of the liver and without demonstrable source of origin points to *Endamoeba histolytica*.

MERCY HOSPITAL CLINICOPATHOLOGIC CONFERENCE

June 28, 1948

F. C. Coleman, M.D., and
M. Patricia Phelan, M.D.,

Des Moines, Iowa

Clinical History

G. B., white male, age 40, was admitted to the hospital on March 9, 1948, and died on April 8, 1948.

Chief Complaints: Nausea, vomiting, and diarrhea.

Present Illness: Approximately six months prior to admission the patient suddenly developed a severe diarrhea. He had ten to twelve bowel movements per day, all very liquid in consistency. He consulted a physician who prescribed a medication for the diarrhea, and for a short time improvement was noted. However, the diarrhea recurred and was then associated with nausea and vomiting. Frequently he would go for several days without symptoms, then would vomit everything taken by mouth. At these times the diarrhea would also recur. Such episodes persisted up until the time of hospital

admission. During the week prior to hospitalization he was unable to retain anything by mouth and the diarrhea was more severe. During this six month period he lost 25 pounds in weight. At no time was hematemesis or melena present.

Systemic History: Essentially negative except for the gastro-intestinal complaints noted and some frequency of urination in between the episodes of vomiting and diarrhea.

Past History: Essentially negative.

Family History: Not known.

Physical Examination: The patient on admission was very drowsy, moderately dehydrated, with a yellow pallor to his skin. The blood pressure was 80/56 and the temperature, pulse, and respirations were normal. No areas of pigmentation or discoloration were noted. Examination of the head and neck was essentially negative. The lungs were clear and the heart was essentially negative. There were no palpable abdominal organs, masses, or areas of tenderness. Rectal examination was essentially negative. The extremities were normal, and a neurologic examination was essentially negative.

Laboratory Data: Urinalysis upon admission and all subsequent urine specimens were normal. The red blood count was 4,550,000 with 12.4 gm. of hemoglobin. The white blood count was 12,950 with 38 per cent neutrophils, 4 per cent eosinophils, and 58 per cent lymphocytes. The morphology of all cells was normal. The blood serology was negative. The blood sodium chloride level was 512 mg. per cent. The fasting blood sugar was 81 mg. per cent with a normal glucose tolerance curve. Gastric analysis revealed no free hydrochloric acid and a total acidity of 12 degrees. The stools and vomitus were negative for occult blood. Cholecystograms and gastro-intestinal roentgenograms were negative. The basal metabolic rate was minus 10, but the patient's height and weight were estimated.

Clinical Course: During the patient's hospital stay he received numerous intravenous infusions of glucose, saline, and amigen. On some days he was free from nausea and vomiting, but these symptoms would return in a day or two. Weakness became more marked and he would not even sit up in bed because of dizziness. He became mentally confused during the second week. A neuropsychiatric consultation was obtained and a negative report rendered. The temperature remained at a normal level. The pulse rate ranged between 70 and 110 per minute. The blood pressure ranged from 0/0 in a sitting position to 90/60 in a supine position. Various trials of medication on testosterone propionate,

desoxycorticosterone, eschatin, thyroid extract, sodium chloride, elixir triple bromides, and betalin were given with no improvement. On April 8, 1948, he refused his feedings and was very drowsy. He became cyanotic and oxygen was given by nasal catheter. He expired two hours later.

Dr. Phalen: Because of the severity of the nausea, vomiting and diarrhea, this case is quite a diagnostic problem.

A malignancy of the gastro-intestinal tract was first considered, but roentgenologic studies of the entire gastro-intestinal tract were all nega-



Fig. 1. Cut surface of adrenal glands showing tuberculous involvement of both cortex and medulla.

tive. These findings do not completely eliminate a malignancy but make it unlikely. Likewise, the history of a chronic course of nausea, vomiting, and diarrhea suggested the possibility of gallbladder disease, but repeated gallbladder studies revealed a normally functioning gallbladder with no evidence of stones.

This patient upon admission had a yellowish, icteric tinge to his skin. Gastric analysis revealed an achlorhydria. Initial and subsequent blood pressure readings were all low. These findings, together with the languor, malaise, and digestive symptoms present a clinical picture sometimes seen in pernicious anemia. The absence of a blood picture resembling pernicious anemia and the failure of the patient to respond to liver extract therapy eliminate this as a clinical diagnosis.

The possibility of acute arsenic poisoning was

also considered. There is no history of exposure to the oxides of arsenic or ingestion of arsenic. This, plus the fact that there are no dermatologic lesions or peripheral neuritis, is against the diagnosis of acute arsenic poisoning. Chronic arsenic poisoning could produce the clinical picture, but against this diagnosis is the absence of hematuria; the liver and spleen are not palpable and there is no evidence of blood destruction—all of which would be anticipated in chronic arsenic poisoning.

All of the complaints the patient presented on admission and those he subsequently developed might be due to an avitaminosis. There is no history of dietary deficiency prior to the onset of the present illness. There is no stomatitis, glossitis, or dermatitis, the classical findings of a marked or prolonged vitamin deficiency.

Although there is no exophthalmos and there is nothing in the history to suggest any previous hyperthyroidism, a gastric thyroid crisis had to be ruled out. Since the basal metabolic rate is usually increased in proportion to the symptoms of a thyroid crisis, the presence of a minus 10 basal metabolic rate is not compatible.

There is no history of exposure to tuberculosis and no past history of tuberculosis. The patient's hospital course was afebrile, no lymphadenopathy was present, and roentgenographic studies of the lungs were negative. On this basis, miliary tuberculosis can be eliminated.

The triad of weakness and anorexia, nausea and vomiting, and diarrhea are frequent manifestations of uremia, which brings forth another clinical entity to be considered. Absence of laboratory and clinical evidence of nitrogen retention, acidosis, and renal insufficiency—the ultimate findings in most uremic states—is considered sufficient evidence against such a diagnosis.

The presence of a prolonged diarrhea, recurrent in type, immediately brings forth the possibility of dysentery or ulcerative colitis. The patient denied the presence of blood in the stools, and at no time was mention made of a bloody diarrhea. Repeated stool examinations for occult blood were negative.

The prolonged nature of this patient's illness ruled out the acute phase of an ileitis, and the continued presence of vomiting, negative radiographic studies, the absence of a palpable mass in the lower abdomen, and no occult blood in the stools are not compatible with a diagnosis of chronic regional ileitis.

Simmond's disease, while rare among males, is a possibility in view of the continued vomiting and concomitant weight and strength loss

and the fact that other positive diagnostic findings are so meager. Although the course of this patient's illness was prolonged, there was no marked wasting. Yet the patient did not respond to forced oral and intravenous feedings, both of which are usual features accompanying Simmond's disease.

The complaints of nausea, vomiting, periodic diarrhea, and weight loss, together with a hypotension, dizzy spells and syncope, are all features of Addison's disease. Although this disease is relatively rare in occurrence, the patient exhibited no definite pigmentation of the skin or mucous membranes, and the blood chloride was normal. However, it seems to be the most likely possibility to me. The progressively downward course in spite of therapy, with frequent exacerbations or crises, is certainly compatible with this diagnosis.

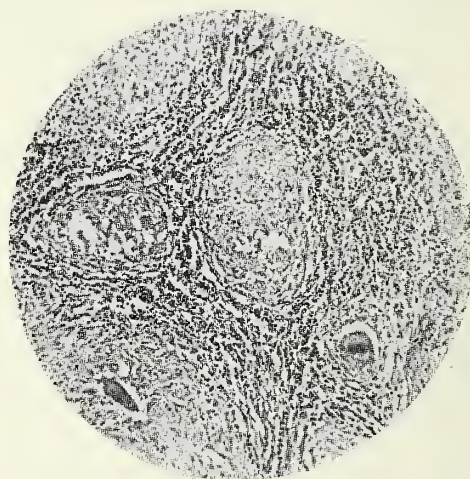


Fig. 2. Miliary tubercles in cortex of adrenal gland (x100).

Dr. Coleman: The body was that of a white male of approximately the stated age of 40 years which measured 70 inches in length and weighed 135 pounds. The skin and the buccal mucous membranes were of a pale yellow color. The right adrenal gland weighed 17.5 gm. and the left adrenal gland weighed 31 gm. Both glands were very firm in consistency. Discrete greyish white areas averaging 2 mm. in diameter were present on the cut surface. Microscopically, there were conglomerate tubercles with central areas of caseation necrosis surrounded by a zone of epithelial cells and connective tissue. Both cortex and medulla were involved. Miliary tubercles were present in the outer portion of the cortex. Acid-fast bacilli were demonstrated in smears from both adrenal glands. The right pleural space was obliterated by a fibrinous pleu-

ritis. Apical scarring of the left lung was present; microscopically this scarred area resembled healed tuberculosis, but no active lesions could be demonstrated. Five calcified subpleural nodules were noted over the lateral surface of the left lung. These nodules were of a black color. The tracheobronchial tree contained purulent exudate. The hilar lymph nodes were of normal size and contained only anthracotic pigment. Fibrous adhesions surrounded the appendix. A fibrinous pericarditis was present, but no pyogenic or acid-fast organisms could be demonstrated. The heart weighed 330 gm. Scarring of the mitral valve cusps was present. Chronic passive congestion was noted in the liver. The brain, kidneys, pancreas, and spleen were normal. The hypophysis was also normal. The final diagnosis was Addison's disease due to tuberculosis of the adrenal glands. No other active tuberculous lesions could be demonstrated.

Addison's disease is more common in males and the highest age incidence is between 30 and 50 years. Tuberculosis of the adrenal glands is the cause in 60 per cent of the cases. In approximately half of these, active tuberculosis is present only in the adrenal glands. Atrophy accounts for 30 per cent of cases. The cause of the atrophy is unknown, but recent reports suggest that exposure or ingestion of certain chemicals may be responsible. Germanin is one of the substances that has been suggested. Amyloid disease, neoplasms, vascular lesions, and pyogenic infections are responsible for the other 10 per cent.

Most of the symptoms and signs of the disease result from involvement of the cortex, although the pigmentation is thought to be due to destruction of the medulla. This pigmentation tends to involve the exposed areas and the mucous membranes particularly, and is patchy in distribution rather than diffuse. Pigmentation in the case under discussion was not typical, although there was a yellowish tint to the skin and mucous membranes.

Destruction of the adrenal cortex results in marked alterations in electrolyte balance. There is an increase in urinary excretion of sodium and chlorides with a decrease in their serum concentration. The decrease in the blood chlorides is variable, however, so that this determination may be of no help in establishing the diagnosis. Serum potassium is increased and the urinary excretion of potassium is decreased. These disturbances in sodium, chloride, and potassium metabolism result in marked changes in intracellular and extracellular fluids. There is a decrease in



Fig. 3. Conglomerate tubercle with large area of caseation necrosis (x100).

plasma volume which may amount to 40 per cent. This decrease in plasma volume results in increased hematocrit determinations, increase in the red blood cell and hemoglobin readings, and an increase in the plasma proteins.

Carbohydrate metabolism is also disturbed. The fasting blood sugar is usually decreased, although this finding is also variable. The glucose tolerance is increased so that the curve rises slowly, attains a level below normal, and falls slowly. Sometimes the fall is sufficient to produce symptoms of hypoglycemia. Sensitivity to insulin is increased.

The urine usually contains albumin, hyaline casts, and the specific gravity is low. The blood urea nitrogen is increased.

The basal metabolic rate is low and achlorhydria is common.

The gastro-intestinal symptoms of nausea, vomiting, and diarrhea are characteristic, being present in about 90 per cent of cases.

The cardiovascular manifestations of low blood pressure, low pulse pressure, and syncope are also characteristic. In acute exacerbations, symptoms of shock may be present. Acute exacerbations with crises are usually precipitated by infections, dietary indiscretions, or trauma. These are more frequent in hot weather.

The diagnosis may be suspected from the clinical picture. Confirmation is usually made by clinical laboratory methods. Blood chloride and sugar determinations are not sufficient because of the variability in the readings. If blood sodium and potassium determinations can be made, these are valuable. If these are not available, the determination of urine chlorides and sodium may be substituted.

Restriction of salt in the diet may be done,

but this is sometimes dangerous. A crisis may be precipitated which can terminate fatally. The Kepler water excretion test can usually be performed with safety. The test takes 24 hours. All urine passed from 10:30 p. m. to 7:30 a. m. is collected. The patient is then given 20 cc. of water per kilogram of body weight and urine collected at hourly intervals for four hours. If the volume of the night specimen is less than any of the hourly specimens, the patient does not have Addison's disease. If the volume of the night specimen is greater, blood and urine urea and chloride determinations are performed and calculations made according to a given formula. A reading of less than 25 indicates Addison's disease, provided there is no evidence of

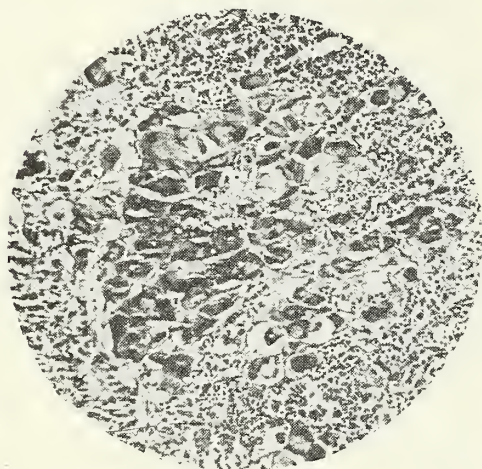


Fig. 4. Collection of adrenal medullary cells surrounded by tuberculous involvement (x170).

renal impairment. This question of renal disease, of course, is the weak spot in the test.

Determination of the 17-ketosteroids in the urine will show decreased excretion in the presence of Addison's disease.

Recently a test of adrenal function has been described in which the body response following the intramuscular injection of 25 mg. of purified pituitary adrenocorticotrophic hormone is determined. In individuals with normal adrenal function there is a marked decrease in circulating eosinophils and an increase in the urinary uric acid-creatinine ratio following injection of this substance. In adrenal insufficiency there is no change in the circulating eosinophils and the increase in the urinary uric acid-creatinine ratio is slight. We have not yet had the opportunity to try this test.

Dr. Phalen: General therapeutic measures instituted in the treatment of any long-standing illness or persistent pathologic condition must be

observed in the treatment of Addison's disease. These include adequate rest, avoidance of overexertion or undue exposure to cold, and a well balanced dietary regimen.

Dietary management should include a diet supplying large amounts of salt, and in addition 5 to 10 gm. of sodium chloride should be administered daily. Potassium restriction should be employed. This form of therapy should be combined with one of the available methods of specific therapy, since it has been proved to be of unquestionable value and also decreases the need of the specific hormone.

A specially prepared cortical extract of the adrenal gland is available and is administered in parenteral doses ranging from 1 to 5 cc. daily, the established dose being reached by therapeutic trials and clinical response. This method of treatment is expensive and the medication is not always available. Therefore, the commercial preparation eschatin, although less potent, has been satisfactorily substituted. Adequate doses range from 1 to 10 cc. daily—again the dosage established by a therapeutic trial.

Recently a synthetic crystalline hormone suspended in sesame oil has been introduced. Desoxycorticosterone acetate is injected in daily doses of 5 to 10 mg. Excellent clinical responses have been recorded. When using this substance, particular care must be taken to avoid hypertension, anasarca, and cardiac failure due to excessive salt therapy.

A more recent method of administration of desoxycorticosterone is the surgical implantation of pellets of this hormone in the fatty subcutaneous tissues. Although expensive, this method supplies a means of continuous absorption of the hormone for a period of several months.

The sublingual administration of desoxycorticosterone acetate in propylene glycol has not been too satisfactory. Seven to ten drops of the substance are held under the tongue seven times daily. This means of therapy is also very expensive.

CHANGE OF ADDRESS

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STATE DEPARTMENT OF HEALTH

Natalie Diering

POLIOMYELITIS

POLIOMYELITIS IN IOWA BY MONTHS 1940 AND 1948		
1940	Cases	1948
January	12	6
February	7	0
March	1	8
April	1	6
May	2	18
June	5	36
July	21	91
August	174	163
September	421	188
October	242	
November	32	
December	11	
Total—1940		929

With the number of cases increasing as they have been in September, 53 for the week of September 4; 81 for the week of September 11 and 54 already reported (9/15) for the week ending September 18, it appears that we must begin to compare this epidemic year with that of 1940 when 929 cases were reported instead of 1946 when 620 cases were reported.

Although the peak of poliomyelitis incidence in the Missouri River counties was reached late in July, a high attack rate has continued in those counties, with a marked increase in many others.

The 462 cases reported from January 1 through September 11 appeared in 71 of Iowa's 99 counties with the following distribution:

Adams	1	Lucas	1
Benton	1	Lyon	3
Black Hawk	1	Madison	1
Boone	7	Marion	1
Bremer	6	Marshall	1
Buchanan	1	Mills	9
Buena Vista	7	Mitchell	2
Calhoun	4	Monona	5
Carroll	1	Montgomery	1
Cass	7	Muscatine	7
Cerro Gordo	4	O'Brien	8
Cherokee	4	Osceloa	11
Chickasaw	1	Page	8
Clay	9	Palo Alto	3
Clayton	1	Plymouth	6
Crawford	5	Pocahontas	2
Dallas	2	Polk	47
Decatur	4	Pottawattamie	53
Dickinson	3	Poweshiek	1
Dubuque	3	Sac	11
Emmet	13	Scott	18
Fayette	1	Shelby	12
Floyd	2	Sioux	2
Franklin	2	Story	13
Fremont	3	Tama	1
Guthrie	5	Taylor	3
Hamilton	4	Van Buren	2
Hardin	1	Wapello	2
Harrison	65	Warren	1
Howard	1	Wayne	1
Howard	3	Webster	6
Humboldt	2	Winnebiek	3
Ida	4	Woodbury	28
Jasper	1	Worth	1
Johnson	5	Wright	2
Kossuth	2		
Linn	2		
Total 9-11-48		462	

Counties reporting the 81 cases for the week ending September 11 and the number of cases reported by each county are as follows:

Adams	1	Marion	1
Boone	2	Mills	5
Buena Vista	1	Monona	2
Calhoun	1	Muscatine	2
Cass	3	O'Brien	2
Clay	1	Osceloa	2
Crawford	1	Page	1
Decatur	3	Plymouth	1
Dickinson	1	Polk	13
Emmet	5	Pottawattamie	5
Fayette	1	Sac	2
Fremont	1	Scott	5
Guthrie	2	Shelby	2
Hamilton	1	Sioux	1
Harmon	1	Story	3
Ida	1	Taylor	1
Johnson	1	Wayne	1
Linn	1	Woodbury	4
Total cases week 9-11-48		81	

School boards are being advised that unless there is unusually high incidence of the disease in their respective districts, it is probably much better that schools continue in operation with as much supervision and nursing inspection of the pupils as it is feasible for the school board to provide.

DDT spraying, if properly carried out, is regarded as a good adjunct to other sanitary practices but must never be expected to take the place of a thorough sanitary clean-up. This spraying is best done with the hand spray, paying attention to garbage pails, the interiors of chicken houses, barns and other places where flies congregate. The ceiling and upper half of the walls where flies rest should receive the spray. If these areas are sprayed now there will be sufficient DDT remaining on the sprayed surface to be effective for the remainder of the fly and mosquito season. DDT bombs are effective only in destroying insects in the area at the time they are discharged.

IMMUNIZATION SCHEDULES

Since the opening of schools many communities, stimulated by their physicians, their school boards and Parent-Teacher Associations, have begun planning mass immunization programs. Some communities in planning for these programs do

not include children of preschool age. This is definitely a mistake even though communicable disease is frequently brought into the home by the school-age child. It leaves the very young age group, in which the severity of attack of diphtheria or whooping cough is greatest, unprotected and creates in the minds of parents a belief that children below school age are too young to be immunized.

Community Immunization

Anticipating such community immunization programs, the Division of Maternal and Child Health has drafted the following immunization schedule for use in the conduct of mass immunization programs:

Age 2 months.....	1st whooping cough
Age 3 months.....	2nd whooping cough
Age 4 months.....	3rd whooping cough
Age 3 to 4 months.....	Smallpox vaccination
Age 5 to 6 months.....	1st diphtheria and tetanus
Age 7 to 8 months.....	2nd diphtheria and tetanus

Booster immunizations are given to increase the immunity level:

Diphtheria—at 5-6 years of age when starting school.

Smallpox — revaccination at school age, and thereafter on entering endemic area or during threatened epidemic.

Whooping cough—at entering school.

Tetanus—at 18 months, and at entering school, and immediately after exposure at any time.

Tetanus toxoid rather than antitoxin should be given to a child immunized against tetanus when he has received a deep puncture wound.

Schick Testing

Schick tests on groups of children are now coming to be considered as a waste of time. If there is doubt as to the child's susceptibility to diphtheria, a booster injection of toxoid should be given.

Since there may be some delay in the time of appearance of the smallpox vaccination reaction, do not repeat the vaccination on those that appear to have the "no-take" reaction until after the fourteenth day.

BLUE CROSS MEMBERSHIP

Blue Cross plans added 964,926 new members to their rolls during the second quarter of 1948 to bring the total membership to 31,210,819 as of June 30, 1948, according to Edward Caygill, manager of the Statistical Research Division of the Blue Cross Commission.

Of the total population of 46 states and the District of Columbia, 20.50 per cent were enrolled in 83 Blue Cross Plans as of June 30, 1948; 20.21 per cent of the total U. S. population was protected by Blue Cross. In Canada, five Blue Cross Plans covering seven Canadian provinces had 21.04 per cent of the population protected; 18.11 per cent of the entire Canadian population were Blue Cross members.

As of June 30, 1948, Hospital Service, Inc., of Iowa had third highest enrollment in the bracket of plans having 200,000 to 500,000 participants, with an enrollment of 451,956—a net growth of 6,438 in the second quarter. According to Mr. Wilbur R. Quinn, executive director of Iowa Medical Service, the total state enrollment of Blue Shield as of June 30 was 49,550—a gain of 8,107 in the second quarter. There are now 53 Blue Shield member plans in the nation.

MORBIDITY REPORT

Diseases	Aug. '48	July '48	Aug. '47	Most Cases Reported From Counties Below
Diphtheria	2	4	4	Cass, Pottawattamie
Typhoid Fever	0	2	8	.....
Scarlet Fever	17	31	48	Dubuque, Washington
Smallpox	0	0	0	.....
Measles	23	157	84	Allamakee, Dubuque, Linn
Whooping Cough	22	40	175	Black Hawk, Dubuque, Calhoun, Polk
Brucellosis	50	93	140	Black Hawk, Marshall, Taylor, Wayne
Chickenpox	24	63	12	Dubuque, Linn, Black Hawk
German Measles	4	6	2	Dallas, Des Moines, Dubuque, Johnson
Influenza	0	0	0	.....
Malaria	1	0	2	Clayton
Meningitis	4	6	1	Clinton, Fayette, Polk, Winneshiek
Mumps	61	136	9	Dubuque, Johnson, Linn
Pneumonia	3	5	0	Counties with 6 or more cases:
Poliomyelitis	163	91	48	Bremer, Clay, Harrison, Page, Polk
				(13), Pottawattamie, Sac, Scott
Tuberculosis	62	85	46	For the State
Gonorrhea	109	149	160	For the State
Syphilis	83	148	318	For the State

The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

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New Dean at S.U.I. College of Medicine

The medical profession of Iowa recently took pleasure in welcoming a new dean to the College of Medicine at the State University of Iowa, Dr. Mayo Hamilton Soley. Dr. Soley succeeds the late Dr. Ewen M. MacEwen who died Sept. 3, 1947.

Dr. Soley, who was born at Malden, Mass., in 1907, assumed his new duties July 1. In addition to the deanship, he is serving as the director of medical services of the University Hospitals and as a Research Professor in the Department of Internal Medicine.

Dean Soley's special interests in medicine are diseases of thyroid, respiratory physiology, and anxiety states. He has published numerous articles in these fields. He is nationally known for his investigations on the therapeutic use of radioactive iodine in thyroid disease.

A graduate of Bowdoin College in 1929 and Harvard Medical College in 1933, Dr. Soley has, since his internship in Massachusetts General Hospital, 1933-35, been associated with the University of California. Included in his steps to his present position were: assistant in medicine at California, 1935-37; instructor, 1937-38; instructor in medicine and pharmacology, 1938-39; assistant professor of medicine, 1939-42; associate professor of medicine and assistant dean of the college, 1942-44; and full professor.

Among the organizations of which the new dean is a member are American Heart Association, Society for the Study of Internal Secretions, Federation for Clinical Research, Society

of Clinical Investigation, Society of Experimental Biology and Medicine, American Association for the Advancement of Science, and the American Physiological Society.

Included in his writings in leading medical publications are accounts of numerous contributions to research in his special interest fields. His authorship and collaborations with other research men include publications in *American Journal of Medical Science*, the *Journal of the American Medical Association*, *American Journal of Physiology*, *Journal of Nervous and Mental Disorders*, and the *American Journal of Nursing*.

The JOURNAL extends best wishes to Dean Soley for the advancement of the State University College of Medicine under his direction.

New Cancer Manual

Every doctor in Iowa was recently the recipient of the revised "Cancer Manual," a publication sponsored by the cancer committee of the Iowa State Medical Society. The members of the committee are to be commended for their excellent work in the establishment of standards for the diagnosis and treatment of cancer, and without doubt the product of their efforts will greatly aid physicians throughout the state who use it as a handy reference. The first edition of the manual was published in 1937.

The subcommittee members directly responsible for the publication are Donovan F. Ward, Dubuque; Arthur W. Erskine, Cedar Rapids, and Siegmund F. Singer, Ottumwa. Other members of the cancer committee are Fred H. Beaumont, Council Bluffs; Everett D. Plass, Iowa City; Edmund G. Zimmerer, Des Moines; Harold W. Morgan, Mason City; Vernon W. Petersen, Clinton; Walter J. Balzer, Davenport, and Alonzo L. Jenks, Jr., Des Moines.

Tuberculosis in the U. S. Zone of Germany

The prevalence of tuberculosis in the American zone of Germany was the subject of a recent study by a commission of physicians and army officers appointed by the Secretary of the Army. Occasioning this action were reports to the Department of the Army from German sources which indicated that a significant rise in the prevalence of tuberculosis had occurred in Germany. It was felt that first-hand information on the nature and extent of this rise, the current trend, and the desirability of assistance by the United States authorities at home or in Germany or by charitable organizations would be invaluable.

able to U. S. officials. Also, in view of the current reorganization of the United States and British zones of Germany on a bizonal basis, a close cooperation with British public health officers concerned with tuberculosis was desired.

Following World War I during which there was a significant rise in tuberculosis mortality, there was a gradual decline until 1938, the last prewar year, then a progressive rise to a peak in 1945 since which time there has been a progressive decline.

Several explanations for the war rise in mortality, the relative importance of which is not known, may be offered. They are: aerial bombing with the consequent destruction of homes and crowding of people together; the food shortage; overwork, mental and physical strain; excessive exposure to the elements; disruption of public health activities, and reduction in tuberculosis bed capacity.

The commission found that there has been a sharp excess in male mortality in the age span from 20 to 40 or 50 years, and a small excess in both sexes in infant mortality when comparing 1946 with 1938 rates. Male rates rose much more than female. Generally speaking, large cities have shown higher rates than have the lands as a whole with the rate in Berlin being far higher than in other cities.

The excessive rate for Berlin may be illustrated by the following table of annual mortality rate per 100,000 population from all forms of tuberculosis during the past two years.

	1946	1947
Land Hesse	73	69
Land Bavaria	80	65
Land Wuertemberg-Baden	83	63
Bremen (city only)	119	95
Berlin (entire city)	238	224

Commenting on this situation, the commission pointed out that Berlin had a considerably higher death rate than other large German cities in the U. S. zone before the war. The other factors mentioned above were all exaggerated; bombing was continuous rather than sporadic; food shortages were presumably greater because of the difficulties experienced by residents of a very large city in procuring food from the surrounding farmland; and Berlin was cut off from the use of its sanatorium beds, most of which were outside the city, to a greater degree than other cities.

Postwar figures for a period of only two years indicate a declining mortality rate in Germany. It is perhaps pertinent to point out that in the United Kingdom, where extensive bombing was experienced in 1940 and 1941, mortality reached its peak in 1941 and thereafter declined during

the remaining war years. In Germany, on the other hand, where bombing became progressively more severe up to 1944 and early 1945, mortality was highest in 1945. Predictions are hazardous, but there is some reason to believe that, barring further deterioration of the economic state of the country, there should be further decline in mortality in the next few years.

Cerebral Palsy Demonstration School

On Oct. 28, 1948, a football game has been scheduled in Des Moines between the Drake University freshman team and the Graceland College team. This project has been arranged by the Kiwanis Club of Des Moines as its philanthropic activity for the year. The admission fee was set at \$1 with the regulation that everyone entering the stadium, including the players, officials, entertainers, bands, and spectators, be required to have an admission ticket. The entire proceeds become available for the cerebral palsy demonstration school which is operated by the Iowa Society for the Crippled Children and the Disabled.

Recently the demonstration school obtained new quarters through the purchase of a home directly opposite the governor's mansion in Des Moines. While this school has been operated on a limited basis, 4 of the 14 pupils last year were graduated to public schools this year. The additional funds anticipated from this sponsor will make it possible for enlarged facilities for the reception and training of children afflicted with cerebral palsy from the entire state. Pre-admission clinics are held at frequent intervals throughout the year. Physicians in Iowa are again reminded that some attempt is being made to treat cerebral palsy among children, particularly between the ages of 3 and 10 years.

MINUTES OF BOARD OF TRUSTEES MEETING

September 14, 1948

The Board of Trustees of the State Society met at Hotel Fort Des Moines on Tuesday, September 14, with the following persons present: Trustees W. A. Sternberg, L. R. Woodward and Ben T. Whitaker; and E. M. George, editor. Minutes were read and approved and bills were authorized. The Journal contract for 1949 was awarded to the Wallace-Homestead Company and the board voted to use unexpended funds in the Other Committees budget, plus the same sort of funds in Medical Service and Public Relations, to apply on the cancer manual on December 31, the unpaid balance, if any, to be taken care of in the 1949 budget. Meeting adjourned at seven.

SPEAKERS BUREAU

HERMAN J. SMITH, M.D., Des Moines, *Chairman*

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CANCER INSTITUTES

Arrangements are now nearing completion for the cancer institutes which are to be presented throughout Iowa this fall. These are sponsored by the Cancer Division of the State Department of Health and the Iowa Division of the American Cancer Society. The Speakers Bureau is obtaining prominent men from Rochester, Minneapolis, Chicago and Omaha to give the lectures and is also taking charge of announcements.

Much thought and planning has gone into these institutes, and we sincerely believe that the doctors of Iowa will gain a great deal from them. There is no charge to those attending.

The sessions, which consist of four one-hour lectures, begin around 4 p.m., continuing until 9:30 or 10 p.m. Early recognition and diagnosis are being stressed so that the general practitioner as well as the specialist can profit from the institute. A complimentary dinner is being provided at each meeting by the Iowa Division of the American Cancer Society.

Individual announcements will be mailed to all doctors the first of October, but check now to find the institute in your area and plan to take advantage of these excellent discussions:

The programs are as follows:

Cedar Rapids

Thursday, October 7

John Parke, M.D., Program Chairman

Cancer of the Skin and Lip.....

.....C. J. White, M.D., Chicago, Ill.

Cancer of the Uterine Body and Cervix.....

.....Earl C. Sage, M.D., Omaha, Neb.

Cancer of the Breast.....

.....Max Cutler, M.D., Chicago, Ill.

Cancer of the Gastro-Intestinal Tract.....

.....Speaker not yet scheduled

Sheldon

Thursday, October 14

W. S. Balkema, M.D., Program Chairman

Cancer of the Uterus and Cervix.....

.....Leonard A. Lang, M.D., Minneapolis, Minn.

Cancer of the Skin.....

.....Richard J. Steves, M.D., Des Moines

Cancer of the Breast.....

.....C. V. McVay, M.D., Yankton, S. D.

Malignancies of the Urinary Tract.....

.....Hugh F. Rives, M.D., Dubuque

Davenport

Monday, October 18

Howard A. Weis, M.D., Program Chairman

The Papanicolaou Test for Cancer.....

.....Speaker not yet scheduled

Cancer of the Skin.....

.....Herbert Rattner, M.D., Chicago, Ill.

Cancer of the Breast.....

.....Warner S. Bump, M.D., Rhinelander, Wis.

Waterloo

Tuesday, October 19

Thomas F. Thornton, M.D., Program Chairman

Responsibility of the Physician in Early Diagnosis of Cancer.....

.....Speaker not yet scheduled

Early Recognition and Diagnosis of Cancer of the Breast.....

.....Warner S. Bump, M.D., Rhinelander, Wis.

Early Recognition and Diagnosis of Cancer of the Lung.....

.....Herbert Stauffer, M.D., Minneapolis, Minn.

Early Recognition and Diagnosis of Cancer of the Stomach.....

.....Earl E. Gambill, M.D., Rochester, Minn.

Red Oak

Thursday, October 21

Oscar Alden, M.D., Program Chairman

Early Recognition and Diagnosis of Cancer of the Rectum.....

.....George Thiele, M.D., Kansas City, Mo.

Early Recognition and Diagnosis of Cancer of the Skin and Mouth.....

.....Hamilton Montgomery, M.D., Rochester, Minn.

Early Recognition and Diagnosis of Cancer of the Genito-Urinary Tract.....

.....Edward M. Honke, M.D., Sioux City

Early Recognition and Diagnosis of Cancer of the Lung.....

.....Ralph A. Dorner, M.D., Des Moines

Creston

Tuesday, October 26

Alexander S. Beatty, M.D., Program Chairman

Cancer of the Gastro-Intestinal Tract.....

.....Edward R. Woodward, M.D., Chicago, Ill.

Cancer of the Uterus.....

.....Otto F. Kraushaar, M.D., Iowa City

Cancer of the Lung.....

.....Speaker not yet scheduled

Cancer of the Rectum.....

.....Ralph H. Riegelman, M.D., Des Moines

Washington

Thursday, October 28

Guy E. Montgomery, M.D., Program Chairman

Cancer of the Lung.....

.....Ralph A. Dorner, M.D., Des Moines

(Continued on page 458)

NEWS NOTES

from the

Committee on Medical Service and Public Relations

MEDICAL SERVICE AND PUBLIC RELATIONS CONFERENCE

The second annual meeting on Medical Service and Public Relations was held in Des Moines, Wednesday, Sept. 15, 1948, in the south ballroom of Hotel Fort Des Moines with representatives from almost all of the county medical societies in attendance. Total attendance was ninety-eight.

The meeting got underway shortly after 9 a.m., with opening remarks by Dr. Fred Sternagel, West Des Moines, chairman, Committee on Medical Service and Public Relations, and Dr. James E. Reeder, Sioux City, president, Iowa State Medical Society. Dr. C. A. Nicoll, Panora, chairman of the Program Committee, presided over the meeting.

The status of hospital construction was discussed by Mr. Robert Hanlon, director, State Department of Health. Mr. Hanlon indicated that there are five or six towns in Iowa that are nearly ready to begin work under the federal subsidized hospital program. Increased building costs is the reason for the letting of so few contracts Mr. Hanlon indicated. A great deal of interest was shown by the audience about this hospital construction subject. Mr. Hanlon remained at the meeting the rest of the day to answer questions.

The present condition of Iowa Medical Service (Blue Shield) was discussed at length by Dr. R. D. Bernard, Clarion. Dr. Bernard is of the opinion that if voluntary plans do not serve the purpose, compulsory health insurance will be forced upon the people and profession. Mr. Donald L. Taylor, field secretary, Iowa State Medical Society, discussed his activities since becoming employed.

How will the nursing problem be solved? This was the subject covered by Dr. F. H. Arestad, Chicago, Council on Medical Education and Hospitals, American Medical Association. He stated that the American Medical Association favors a two year training course for nurses.

After the noon luncheon Dr. N. G. Alcock, president-elect of the Iowa State Medical Society, introduced Dr. C. A. Nicoll, Panora, and Dr. E. E. Shaw, Indianola, who discussed general practice. Dr. Shaw explained the purpose and organization of the American Academy of General Practitioners while Dr. Nicoll pointed out the lack of interest instilled in the minds of medical students toward entering general practice. He used his county as an example also to point out the lack of interest in rural practice. He

stated that when he established in Guthrie County 16 years ago there were 17 physicians; now there are 7 with only 2 of the 7 under 60 years of age.

Dr. Francis F. Borzell, M.D., Philadelphia, Speaker of the House of Delegates, American Medical Association, opened the afternoon session with a paper on "The Place of the Woman's Auxiliary." He pointed out that the women can assist the profession in combating socialized medicine by keeping properly informed about the status of the practice of medicine, thus enabling themselves to discuss the subject intelligently when meeting with lay groups. He was followed on the program by Mr. John Henry, Des Moines, Public Relations Counsel, Register and Tribune, who spoke on "Public Relations and the Physician." His talk was short but informative.

The meeting was closed with a symposium on "How to Stimulate County Society Activities." Dr. C. Dudley Miller, Denison, spoke on "Maintaining Interest in the County Medical Society." Dr. Charles J. Baker, Fort Dodge, followed with "Should Programs be Home-Grown or Imported?" Dr. C. A. Boice concluded this excellent symposium with the topic, "The Fruits of Organization." The conference adjourned at 4:30 p.m.

Donald L. Taylor

CANCER INSTITUTES

(Continued from page 457)

Cancer of the Large Bowel.....	John Waugh, M.D., Rochester, Minn.
Cancer of the Skin.....	Richard L. Sutton, M.D., Kansas City, Mo.
Use of Radioactive Substances in Thyroid Therapy.....	Mayo Soley, M.D., Iowa City

SPEAKERS BUREAU RADIO SCHEDULE

WSUI—Tuesday at 11:30 a.m.

WOI—Thursday at 11:15 a.m.

October 5- 7	Plastic Surgery—Julian M. Bruner, M.D., Des Moines
October 12-14	State Department of Health program
October 19-21	Children's Tonsils—In or Out?—Devoy O. Bovenmyer, M.D., Ottumwa
October 26-28	Keeping Your Baby Well—Walter M. Block, M.D., Cedar Rapids

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- CONGENITAL MALFORMATIONS OF THE HEART**—Helen B. Taussig, M.D., Associate Professor of Pediatrics, Johns Hopkins University School of Medicine, and Director of the Children's Cardiac Clinic at the Harriett Lane Home of the Johns Hopkins Hospital. The Commonwealth Fund, New York, 1947. Price, \$10.
- CORRELATIVE NEUROANATOMY**—By Joseph J. McDonald, M.S., M.Sc.D., M.D.; Joseph G. Chusid, A.B., M.D.; and Jack Lange, M.S., M.D. Fourth edition, revised. University Medical Publishers, Palo Alto, California.
- ESSENTIALS OF PATHOLOGY**—By Lawrence W. Smith, M.D., F.C.A.P., Formerly Professor of Pathology, Temple University School of Medicine, Associate Professor of Pathology, Cornell University Medical School, and Assistant Professor of Pathology, Harvard Medical College. Corresponding Member of the Royal Flemish Medical Academy of Belgium; and EDWIN S. GAULT, M.D., F.C.A.P., Associate Professor of Pathology and Bacteriology, Temple University School of Medicine. With a foreword by the late JAMES EWING, M.D., Memorial Hospital, New York City. Third edition. The Blakiston Co., Philadelphia, 1948. Price, \$12.
- GENERAL ENDOCRINOLOGY**—By C. Donnell Turner, Ph.D., Associate Professor of Zoology, Northwestern University. W. B. Saunders Company, Philadelphia, 1948.
- HANDBOOK OF OPHTHALMOLOGY**—By Everett L. Goar, A.B., M.D., F.A.C.S., Professor of Ophthalmology, Baylor University College of Medicine, Houston, Texas. The C. V. Mosby Company, St. Louis, 1948. Price, \$5.50.
- HANDBOOK OF ORTHOPAEDIC SURGERY**—By Alfred Rives Shands, Jr., B.A., M.D., Medical Director of the Alfred I. du Pont Institute of the Nemours Foundation, Wilmington, Delaware; Visiting Professor of Orthopaedic Surgery, University of Pennsylvania School of Medicine, Philadelphia, Pa. In collaboration with RICHARD BEVERLY RANEY, B.A., M.D., Associate in Orthopaedic Surgery, Duke University School of Medicine, Durham, N. C.; Lecturer in Orthopaedic Surgery, University of North Carolina School of Medicine, Chapel Hill, North Carolina. Third edition. The C. V. Mosby Company, St. Louis, 1948.
- THE LIVER AND ITS DISEASES**: Comprising the Lowell Lectures Delivered at Boston, Mass., in March, 1947. H. P. HIMS WORTH, M.D., Professor of Medicine in the University of London; Director of the Medical Unit, University College Hospital, London; Fellow of the Royal College of Physicians of London; Fellow of University College, London. Harvard University Press, Cambridge, Mass., 1947. Price, \$5.
- MEDULLARY NAILING OF KÜNTSCHER**—By Lorenz Bohler, M.D., Director of the Hospital for Accidents in Vienna; Professor of Surgery at the University of Vienna. First English edition revised by the author. Translated from the eleventh German edition by HANS TRETTER, M.D., Surgeon in Charge of the New Jersey Manufacturers Hospital, Active Consultant in Traumatic Surgery at the Orthopaedic Hospital, Trenton, N. J.; Former Assistant to Dr. Bohler at the Hospital for Accidents in Vienna; Former Demonstrator of Anatomy, University of Graz, Austria. The Williams and Wilkins Co., 1948. Price, \$7.
- PERIPHERAL VASCULAR DISEASES: DIAGNOSIS AND TREATMENT**—David W. Kramer, M.D., F.A.C.P., Associate Professor of Medicine, Jefferson Medical College; Assistant Physician, Jefferson Hospital; Chief Clinical Assistant, Vascular Clinic, Jefferson Hospital; Visiting Physician, Medical Division, Philadelphia General Hospital; Consultant on Peripheral Vascular Disorders, Philadelphia General Hospital; Attending Physician, Metabolic Division, and Chief of Diabetic Clinic, Jewish Hospital; Attending Physician and in Charge of Department of Metabolic and Peripheral Vascular Disorders, St. Luke's and Children's Medical Center; Metabolist to Eagleville Sanatorium. Foreword by EDWARD L. BORTZ, M.D. F. A. Davis Co., Philadelphia, 1948. Price, \$8.
- PRACTICE OF ALLERGY**—By Warren T. Vaughan, M.D., Richmond, Virginia. Revised by J. Harvey Black, M.D., Dallas, Texas. Second edition. The C. V. Mosby Co., St. Louis, 1948. Price, \$15.
- ROENTGEN STUDIES OF THE LUNGS AND HEART: A Series of Lectures Delivered at the Center for Continuation Study, University of Minnesota**—By NILS WESTERMARK, M.D., Director, Department of Radiology, St. Goran's Hospital, Stockholm, Sweden. Edited by LEO G. RIGLER, M.D., Professor of Radiology, University of Minnesota. The University of Minnesota Press, Minneapolis, 1948. Price, \$7.
- SOURCE BOOK OF ORTHOPAEDICS**—By Edgar M. Bick, M.D., F.A.C.S., Dipl. Orth. Surg., Associate Orthopedic Surgeon, The Mount Sinai Hospital, New York; Fellow American Academy Orthopedic Surgeons. Fellow in Orthopedic Surgery, New York Academy of Medicine. One time Regional Consultant Orthopedic Surgeon (Army), European Theatre of Operation. Second edition. The Williams and Wilkins Company, Baltimore, 1948. Price, \$8.

BOOK REVIEWS

PSYCHIATRY FOR THE PEDIATRICIAN

By Hale F. Shirley, M.D., Associate Professor of Pediatrics and Psychiatry, Executive Director of the Child Psychiatry Unit, Stanford University School of Medicine. The Commonwealth Fund, New York, 1948. Price, \$4.50.

This book represents a comprehensive yet not unnecessarily detailed discussion of psychiatric problems with which the pediatrician as well as the general practitioner who sees children must be familiar. Lectures on child psychiatry formed the basis for the book.

The first chapter on "Basic Concepts" might have been shortened. In a book of this sort, one may question the need of a discussion of physical factors which by necessity must be sketchy. At the other hand, one misses some elaboration on actual mental diseases such as schizophrenia. The chapters on intellectual, emotional and environmental factors are

the highlights of this book which will prove very valuable reading for every pediatrician.

W. M. B.

WAR, POLITICS AND INSANITY

By C. S. Bluemel, M.A., M.D., F.A.C.P., M.R.C.S. (Eng.). The World Press, Inc., Denver, 1948.

In this book the author urges thinking citizens, who are trying to evaluate current events, to approach both history and political trends in terms of the personality make-up and psychiatric tendencies of men in places of leadership. He contends that the events of history and the affairs of politics often turn on personality disorders, and for this reason considers it important "to identify the psychological traits which bring a man to rank and power in public life and to suggest a formula which might protect society against leaders of the abnormal type."

In a very logical manner some of the interesting

and history-molding personalities of all time are presented and their actions interpreted in terms of actual psychoses or psychotic tendencies. The ingenuity of Luther Burbank's botanical pursuits, the hallucinations of Joan of Arc, the impelling drive for scientific research on the part of Paul Ehrlich, the frenzy for reform of John Brown—all are explained in terms of schizophrenia, a manic depressive state, paranoid or obsession attitudes.

The author speculates as to how different would have been the cause of American history if the country's early political leaders had been of the Nazi type, but goes on to point out that America was probably no wiser than Germany in choosing its leaders, for it is the leaders rather than the followers who exercise political choice. He points out that "too often passionate desire for leadership is an abnormal trait in personality make-up and the mere craving for public attention is not a qualification for public responsibility."

The book leaves the reader wondering what steps can be taken to ensure ourselves that the mentors of democracy be well adjusted personalities qualified for their jobs of leadership.

M. L. L.

THE 1947 YEAR BOOK OF ENDOCRINOLOGY, METABOLISM AND NUTRITION

Endocrinology edited by WILLARD O. THOMPSON, M.D., Clinical Professor of Medicine, University of Illinois College of Medicine; Attending Physician (Senior Staff), Henrotin Hospital; Attending Physician, Grant Hospital of Chicago; Metabolism and Nutrition edited by TOM D. SPIES, M.D., Chairman, Department of Nutrition and Metabolism, Northwestern University School of Medicine; Director, Nutrition Clinic, Hillman Hospital, Birmingham, Alabama. The Year Book Publishers, Inc., Chicago, 1948. Price, \$3.75.

This marks the third of a series of annual reviews covering the progress made in the fields of endocrinology, metabolism, and nutrition. The text fulfills the statement of the editors in the preface that it is a valuable source book of quick reference in the fields covered to the research investigator, the general practitioner and specialist. There are chapters dealing with each of the endocrine glands. Topics covered of current interest and importance are the role of the anterior pituitary adrenocorticotrophic hormone, the use of antithyroid drugs in the toxic goiter therapy, radioactive iodine in carcinoma of the thyroid, hormonal therapy in carcinoma of the prostate, the influence of the liver on testicular and ovarian function, and the part of hormones in the development and treatment of carcinoma of the breast. The chapter on the adrenal gland is quite extensive and of exceeding interest. The section on metabolism and nutrition is edited by a widely known authority in that field, Dr. Spies. There are nine chapters, making the review of this field quite comprehensive.

This text, like its companions in other branches of medicine, offers a way of keeping abreast with the rapid changes and advances being made in the fields of investigation and clinical practice.

J. S.

YOU AND YOUR DOCTOR

A Frank Discussion of Group Medical Practice and Other Modern Trends in American Medicine—By Benjamin F. Miller, M.D., Clinical Professor of Medicine, George Washington Medical School; Research Associate in Medicine, National Research Council; formerly associated with the University of Chicago Clinics and the United States Public Health Service. Whittlesey House, McGraw-Hill Book Company, Inc., New York. Price, \$2.75.

This book, purported to be a frank discussion of group medical practice and other modern trends in American medicine, is significant in that it reflects an attitude which the reviewer fears is becoming all too prevalent among the faculties of many of our medical schools. It is an attitude of scorn of the general practitioner and of general practice. The author, Benjamin F. Miller, M.D., clinical professor of medicine in the George Washington Medical School and formerly associated with the University of Chicago Clinics and the United States Public Health Service, professes an interest in the future of American medicine. As a medical teacher, he has an opportunity to play a role in making this future a bright one. Can he accomplish this by disparaging the ordinary doctor? Can American medicine progress if teachers of medical students fail to realize their duty to encourage students to train themselves well for general practice?

Intended for reading by the laity, the book consists of a series of chapters on such subjects as "Signs and Symptoms," "The Modern Hospital," and "Periodical Medical Checkups." In almost every chapter the author cites instances of carelessness, inadequacy or incompetency of general practitioners, and concludes that our present system of medical practice is wholly inadequate. He proposes a wide system of group practice as the ultimate answer to providing better medical care to the American people. Inasmuch as he believes that the greatest gains that have been made in medicine during recent years have been accomplished by the public health profession, he advocates a completely integrated system of medical service for the entire country, under the United States Public Health Service, to be established through "proper legislation" and supported by a nation-wide insurance scheme to carry the cost of medical care. He believes that a voluntary insurance program would be unsatisfactory because a large proportion of the population cannot afford any kind of insurance against illness. Thus, it would be necessary to have a program which will "guarantee the year-by-year operation of this system by public funds."

R. F. B.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. ALLAN G. FELTER, Van Meter

President-elect—MRS. CHARLES A. NICOLL, Panora

Secretary—MRS. CHARLES T. MAXWELL, Sioux City

Treasurer—MRS. M. A. ROYAL, 1138 Thirty-seventh Street, Des Moines 11

ACTIVE WOMAN'S AUXILIARIES

The fact that a Woman's Auxiliary can be active and do a grand job has been shown many times over, even though some physicians are still skeptical.

The Auxiliary of the Summit County (Ohio) Medical Society sponsored a successful "Health Day" which featured a public exhibit on medical and health subjects. There were 2,000 persons who viewed the exhibit which was housed in the auditorium of one of the large department stores.

The Woman's Auxiliary of the Michigan State Medical Society last winter took over and developed interest in a state-wide tuberculosis speaking project. The result was that some 3,537 high school students from 81 communities participated. Sixteen local radio broadcasting stations throughout the state gave time to the winning scripts.

The Woman's Auxiliary of the Academy of Medicine of Toledo and Lucas County (Ohio) recently published a brochure telling all about the Auxiliary, its history, and its activities.

The Auxiliary of the South Carolina Medical Association publishes a monthly "Auxiliary Bulletin."

The Woman's Auxiliary of the Texas State Medical Association has inaugurated what seems to us to be a new service. The Auxiliary is operating a newspaper clipping service under the direction of each county auxiliary president. This will provide a progressive picture of activities throughout the state and will yield valuable information which will be useful in guiding a public relations program. All clippings will be maintained in the Association's central office in Fort Worth.

News Letter, Council on Medical Service, A.M.A.
Aug. 12, 1948.

HOSPITAL CONSTRUCTION ACT PROGRESS

Progress under the Hill-Burton Act (Public Law 725) is far better than most proponents of the act expected. Only six months have passed since approval of the first project, yet (July 1) 347 projects have been approved in 42 states. Also contrary to expectations, the program is reaching into areas really in need of additional facilities.

The picture on May 15, 1948, was as follows (July data not available):

Forty-six states and territories have state-wide plans approved; 39 million dollars is involved in 272 construction projects approved in 31 states.

The 272 projects include 244 hospitals, 23 health centers, and 5 auxiliary facilities.

Most of the 212 proposed general hospitals are under 50 beds:

Beds	Number of Hospitals
Under 25	51
25 to 50	76
50 to 75	52
75 to 100	10
100 and over.....	23

Most of these general hospitals will be located in rural communities:

- 93 in towns under 2,500 population
- 47 in towns 2,500 to 5,000 population
- 35 in towns 5,000 to 10,000 population
- 23 in towns 10,000 to 25,000 population
- 4 in towns 25,000 to 50,000 population
- 10 in towns 50,000 population and over

News Letter, Council on Medical Service, A.M.A.
July 22, 1948.

NURSING SERVICE

One of the major postwar problems in medical care is nursing service. For several years there has been an apparent decrease in the number of nurses in active practice. We all know that some of the reasons for the situation are the greater demand for nurses, especially by veterans' hospitals, marriage and termination of practice, the human factor of some to do less work for more pay and to seek easier work, and the decrease in enrollment of student nurses since subsidization of cadet nurses has ceased.

Much of the success doctors have in caring for the sick is due to good nursing service.

It seems logical that each of us should take every opportunity to give encouragement to our younger patients and friends who may be undecided or seeking advice about professional or vocational training.

The possibilities of nursing are expanding into many interesting and attractive fields of service. Nursing is no longer limited to hospital, home and office, though these fields offer the greatest opportunities for the nurse who really likes to relieve human suffering. There are ever-increasing demands for industrial nursing in our larger plants and department stores, as stewardesses on transcontinental

and transoceanic lines, and positions of supervisory capacity will open to many.

It should be said, too, that the cost of obtaining nurses' training is minimal as compared with other professional and vocational education.

The nursing profession is a most human method by which the young lady of character and noble interest can serve her community.

As physicians, each of us can speak words of encouragement and give much desired counsel to our young friends who have an inclination to follow this honored profession.

Lester D. Powell, President

Bulletin, Polk County Medical Society, June-July, 1948

PROGRAMS OF COMMITTEE CHAIRMAN 1948-1949

HYGEIA

MRS. A. W. HAMMOND, *Chairman*

In her stirring inaugural address at our National Convention in Chicago, Mrs. Luther H. Kice, newly installed president, stated that *Hygeia*, *The Health Magazine*, is a beacon of truth.

Hygeia is indeed a beacon sending forth its rays of authoritative information which dispel the fog of ignorance and quackery. We are the dynamo for this beacon. How far its beams of authenticity penetrate depends to a considerable extent upon our efforts to widen the circulation of *Hygeia*.

Our efforts to increase the number of subscriptions to this publication must be revitalized. They must be constant, not just for the duration of the circulation contest, but for the whole year. Concerted drives must be conducted with such intensity that seismographic recordings are registered from coast to coast. This does not mean necessarily that we are to be high-pressure saleswomen going from door to door. It does mean, however, that we should zealously endeavor to:

1. Make every member of the A.M.A. in our county a subscriber.
2. Make every dentist a subscriber. Dentists now have the privilege of the special rate extended to physicians.
3. See that *Hygeia* is on the reading table in every beauty shop, golf club, lodge, hospital, library and wherever people are likely to congregate.
4. Secure a subscription from all officers of allied health organizations. Articles of vital interest to them appear frequently.
5. Secure a subscription from every P.-T.A. president.
6. Have principals organize study groups among students of junior and senior high schools. Inform them about the questions available for class discussion. Special rates are granted to group orders of ten or more.
7. See that *Hygeia* is in every school, parochial and private as well as public. If some articles are beyond the comprehension of pupils, teach-

ers may interpret same for them in simple terms.

8. Introduce *Hygeia* into the rural schools by giving several subscriptions. A system of rotating the numbers can be worked out with the county nurse of the book-mobile unit if there is one.

9. Introduce *Hygeia* into every family, especially those in which there are young children.

When *Hygeia* is given as a gift in such cases as schools, an effort should be made the following year to obtain subscriptions from the recipient.

Publicize *Hygeia* by:

1. Using articles from it for school, church, and civic organizations, and auxiliary meetings.
2. Making a scrapbook out of the cover and frontispiece for the waiting room in hospitals.
3. Having an exhibit at the state medical convention and also on Health Day. This booth should be staffed so that questions can be answered and subscriptions secured from those doctors in whose county there is not an auxiliary.

Detailed information about regular rates (\$2.50 per annum and special \$1.25), about the circulation contest, about exhibits and other facts pertinent to the sale of *Hygeia* will be given in the new Handbook now being compiled. It is hoped that the Handbook can be released early in September.

In promoting the circulation of *Hygeia* many important facts should be remembered. Among those of paramount importance are these:

1. *Hygeia* gives only reliable information and sound advice in terms easily comprehensible to the lay person. It is not too technical.
2. *Hygeia* is a tool for public relations. It is one of the finest media for creating good will between laity and the medical profession for it fosters that much-to-be-desired spirit of friendliness between doctor and patient. It is an arresting example of the many features in the practice of medicine which make that profession the embodiment of all that is noble and altruistic.

We in the Auxiliary should proudly, vigorously and willingly accept the challenge of the members of the House of Delegates. Because they are fully cognizant of the inestimable value of *Hygeia*, they have asked that we promote the distribution of it as widely as possible.

We can and we must do so for—HYGEIA IS THE BEACON OF TRUTH, WE ARE THE DYNAMO.

LEGISLATION

MRS. CHARLES L. SHAFER, *Chairman*

The year 1949 will see a new Congress and 45 state legislatures in action. That means a double job ahead for the state chairmen of legislation. County chairmen are counterparts of state chairmen, and are the important media for success or failure of the national and state programs. All legislative chairmen should do these things: (a) Keep informed about proposed legislation on both state and na-

tional levels; (b) Serve as resource or reference chairmen for the auxiliaries; (c) Suggest and stimulate activities within the framework of the Woman's Auxiliary and the American Medical Association policies.

Some auxiliaries say: "The medical society seldom makes direct suggestions to us; what can we do?" Are our hands really tied, or are such complaints an *excuse* for indifference to legislative matters? Are we alert to the opportunities we possess under the Auxiliary constitution? Are we doing our part to help the medical profession meet its challenge?

Study and educate could well be the slogan again in 1948-1949, first for ourselves as Auxiliary members, then for our immediate families and friends, and finally the public.

What must we know? (1) Contents of proposed legislation that would affect the health and well being of the public and, therefore, of real concern to the medical profession. (2) Progress made by outstanding bills; arguments *for and against*; who supports them and why? (3) Principles and policies of the American Medical Association that guide their approval or disapproval of proposed legislation. (4) *Reasons* why the A.M.A. feels federal or state control of medical care and such measures as compulsory health insurance are not the right answer for the United States. (5) Measures advocated and encouraged by the profession to meet the needs of all the people without side-stepping or ignoring lacks, inadequacies or imperfect distribution of medical resources in some of our areas.

What tools can we use effectively? (1) *The ballot*—and be sure our relatives and friends *vote* also. (2) *Study groups*, as advocated for years, out of which could grow panels of well informed, able speakers available to present discussions before women's clubs, church societies, et cetera, with the approval of the state medical society. (3) *A.M.A. Publications* that are, or should be, in every doctor's home; the *A.M.A. Journal*, where "Washington Letters" keep us abreast of the happenings in Congress, and "Medical Legislation" lists bills and shows the trends in state legislatures; *state and county medical periodicals* that emphasize state interests; *A.M.A. Handbook*, a quick reference for resources material. (4) *New publications* that every auxiliary should own: "The Issue of Compulsory Health Insurance" by George W. Backman and Louis Merriman, a study by the Brookings Institute, 722 Jackson Place N.W., Washington 6, D. C., price \$2.00; "Private Enterprise or Government in Medicine" by Louis Hopewell Bauer, M.D., publisher Charles C. Thomas, Springfield, Illinois, price \$5.00. (5) *Special helps to state chairmen*: Bulletins from the Washington Office of the Council on Medical Service of the American Medical Association, which contain hot-off-the-wire news of Congress; communications from the state legislative committee of each state medical society.

What else can we do? Indirect approaches are often more successful than direct attacks, and women are masters of such technics: (1) In our every-

day lives, Auxiliary members have countless opportunities in community organizations to influence public thinking and action, and help spread the medical profession's viewpoint on proposed legislation for medical care and public health services to the nation.

(2) Cooperation with county and state medical societies and with other committees in the auxiliaries, such as public relations and program, is essential. (3) Help the A.M.A. in the following ways: (a) Observe and interpret the woman's viewpoint in health matters; (b) Inform the medical society of the time, the place and the name of the program chairman of important meetings, on state or county levels, of such organizations as the Federated Women's Clubs, American Association of University Women, Parent-Teachers Associations, large church sessions, et cetera, so that speakers on timely legislative matters can be supplied; (c) *When and if requested by A.M.A. or its component organizations*, oppose or support definite bills by contacting elected representatives (state and national) to let them know why you disagree or believe in the proposed legislation, and by encouraging individuals and organizations to do likewise. (4) Build up a resource library for Auxiliary members to be placed in medical society rooms, in public libraries or hospital libraries, according to each community's interests.

If the foregoing program can be carried into effect in Legislation, the Woman's Auxiliary to the American Medical Association—at all levels—will truly become that "most important instrument of organized medicine."

The Bulletin, August, 1948.

HYGEIA COMMITTEE

Letters have been sent to each Auxiliary president asking her to appoint a local county chairman to handle the promotion of subscriptions to *Hygeia*. *Hygeia* is our official health magazine. See if you can't place it in your doctor's and dentist's offices, in hospitals, in beauty parlors, and even in industrial plants. Remember its value in our public schools. Also, it makes a fine gift in any home. Each person is requested to cooperate to increase the number of subscriptions from Iowa.

Mrs. J. Stewart Jackson,
Hygeia Chairman

WOMAN'S INSIDE STORY

"Lady, this book concerns you. It was written for you and about you. It was written with a sincere desire to help you. A perusal of its contents may alter your outlook on life, perhaps enable you to tack a sizeable extension onto your life span. Certainly, it will acquaint you intimately with yourself—and there's a person you really should know, intimately! This is YOUR inside story!"

Thus Mario A. Castallo, M.D., and Cecilia L. Schultz, R.N., begin their excellent book, *Woman's Inside Story* (Macmillan). Firm in their conviction that knowledge can banish fear and bring about in-

telligent outlook and care of the body, Dr. Castallo presents a "gynecologist's eye view," and Cecilia Schultz contributes from her experience as a professional nurse. In an informal, factual fashion the authors discuss the physical phases of a woman's life from birth through the menopause; their style is liberally sprinkled with humor and a dash of inspiration. The reader is made to feel that she is having a cozy chat with her own doctor about matters she would discuss only with him, and though the sky might be momentarily black in her existence, the sun is bound to shine soon.

Beginning with "The Miracle of You," the chapter headings advance to "Nursery Interlude," "You Grow up to be a Woman," "Your Sex Life," "Approach to Marriage," "Tumors—and Tumors," "Some Day You're Going to be Forty," "You Can't Have a Baby?" "Affections, Afflictions, and Infections," "Happy Expectations," and "Obstetrical Postscript."

On the subject of reducing which is always of paramount interest to women, the authors offer the following admonitions:

1. Eat low-calorie foods and let who will eat cream puffs.
2. Forego bread at meals that feature potatoes.
3. Eat lean meats, cut fat off meat, pass up all desserts except fruits.
4. Eschew second helpings.
5. Cut out alcohol entirely.
6. Take smaller helpings of everything.
7. Avoid fried foods.

"As far as we know, one fool-proof exercise for weight reduction is that of pushing oneself resolutely away from the dining table three times a day. Because of the health hazards involved, it is wise to reduce under medical supervision once one reaches the shady side of thirty."

In seeking to allay fears of pregnancy and hosts of unfounded superstitions the authors offer their rules for expectant mothers:

1. Choose a good doctor, the earlier the better.
2. Obey his orders to the letter.
3. Let the doctor do the worrying.
4. Leave something to God—this is His business, remember!

And in regard to the menopause, they believe that "Good mental hygiene decrees that you keep busy. If your body and mind are occupied, you'll have no opportunity to worry over the slight irregularities of your system, and you'll lack leisure in which to concentrate on your unpleasant symptoms. . . . The 'change of life' won't cause you to become insane, won't terminate your sex life, won't ruin your figure, won't destroy your femininity. It's the punctuation mark that follows your term of reproduction. If its symptoms become bothersome, you'll find help at the hands of your doctor.

"Life will begin about forty—a new, interesting, colorful phase of your life—if you will take an adult, intelligent viewing of the menopause and let your physician do the rest!"

There is an adequate glossary of strictly medical terms which are used as sparingly as possible in *Woman's Inside Story*. This book provides fine review material for Auxiliaries or lay groups.

Mrs. K. M. Chapler

IOWA SOCIETY FOR MENTAL HYGIENE

Services: The Iowa Society for Mental Hygiene is an organization supported entirely by annual membership fees of \$1 per person. It has some 750 members. Its principal function is to conserve the mental health of children and adults. It promotes a higher standard of treatment and more efficient preventive measures for mental illness. The Society sponsors an educational program cooperating with federal, state and local agencies and officials whose work is related to mental hygiene.

The Society offers speakers for clubs, churches or other groups. Its educational program includes distributing free pamphlets on mental hygiene and a reading list of books on psychiatry and mental hygiene. The group conducts state and district meetings on the subject of mental hygiene. Counsel and guidance by specialists on psychologic and psychiatric problems in the home, school and community also are offered. Leadership in organizing a mental health chapter or clinic in each county is part of the Society's program.

Who is eligible: All groups or individuals interested in the improvement and advancement of mental hygiene in Iowa are eligible.

Cost: Since the Society is supported by voluntary contributions there are no service fees. Speakers are occasionally given a nominal fee such as traveling expenses.

Area: The Society serves the entire state. It has membership in over 70 counties.

Iowa Health Agencies

MINUTES OF TUBERCULOSIS COMMITTEE MEETING

September 12, 1948

The Tuberculosis Committee of the State Society met at Hotel Fort Des Moines on Sunday morning, Sept. 12, 1948, with the following members present: R. H. Harrington of Sioux City, chairman; J. Carl Painter of Dubuque, Leon J. Galinsky of Des Moines, R. E. Smiley of Mason City and D. R. Webb of Cedar Rapids. Dr. Harrington explained the purpose of the meeting was to formulate a program for the coming year. The committee voted to ask the program committee to include a speaker to discuss diseases of the chest at the annual meeting; it voted to present four or five institutes on diseases of the chest in cooperation with the Speakers Bureau, the Iowa Chapter of the American Heart Association, the Tuberculosis Division of the State Department of Health and the Iowa Tuberculosis Association; and it voted to have another meeting October 10 with representatives of the other groups to outline the proposed institutes. Meeting adjourned at 11:30 a. m.

SOCIETY PROCEEDINGS

MEETINGS

Butler County

The Butler County Medical Society and Auxiliary held their August meeting at the home of Dr. and Mrs. Carl F. Roder of Dumont. A picnic supper was shared.

Scott County

The first fall meeting of the Scott County Medical Society was held at 6 p. m., September 7, at the Lend-a-Hand Club, Davenport. Dr. Mayo H. Soley, Dean of the College of Medicine at the State University of Iowa, spoke on "The Handling of Patients with Various Types of Goiter." A film entitled "Angina Pectoris" was shown preceding the meeting.

PERSONALS

Dr. Charles T. Bergen of Bryceland, Minn., has joined the medical staff of the Hampton Clinic. He has been practicing 14 years, the last seven of which have been in Bryceland.

Dr. Louisa Boutelle has begun her duties as member of the medical staff and psychiatrist at the Cherokee State Hospital. Dr. Boutelle, who came to Cherokee from the Utah State Hospital, received her medical degree from the University of Minnesota.

Dr. Karl A. Catlin, formerly on the staff of the Topeka, Kan., state hospital, has joined the staff of the Clarinda State Hospital. Dr. Catlin will serve as senior physician.

Dr. John S. Deering of Onawa has announced his retirement from practice and has turned the management of the Onawa hospital over to Dr. Roy Brown, his colleague.

Dr. Melchior D. Enna of Rock Rapids bought the practice of Dr. C. F. Roder of Dumont and began work there September 1. Dr. Enna has been associated with Dr. Arthur C. Wubben in Rock Rapids the last year and a half.

Dr. Emil A. Fullgrabe of Sioux City spoke at a meeting of the Sioux City chapter of the American Interprofessional Institute September 10. His subject was "Some Recent Developments in Pathology."

Dr. Jacques S. Gottlieb, professor of psychiatry on the staff at the University Hospitals, Iowa City, recently served two weeks as civilian consultant in

psychiatry at Walter Reed Hospital, Washington, D. C.

Dr. Leonard C. Hallendorf of Muscatine left October 1 for Bakersfield, Calif., where he is entering a medical partnership, specializing in surgery. Dr. Hallendorf came to Muscatine in November, 1946, after completing study at the Mayo Clinic, Rochester, Minn.

Dr. Hans Hansen, who recently retired from the staff of Veterans' Hospital, Canandaigua, N. Y., has announced his intention to open offices for the practice of medicine in Logan in the near future. Dr. Hansen will occupy the same location he had when practicing there 25 years ago.

Dr. Werner M. Hollander of Davenport spoke at a noon meeting of the Exchange Club August 27 on the topic, "Causes of Mental Illnesses, Treatment and Prevention."

Dr. L. Mulder has announced the opening of offices at Hospers, Iowa.

Dr. Robert C. Parkin of New Albin is leaving his practice there to become associated with the American Medical Association, Chicago.

Dr. Howard Palmer, a graduate of the College of Medicine at the State University of Iowa with the class of 1945, has opened an office at Nichols. Dr. Palmer was recently discharged from the army in which he had served two years.

Dr. M. A. Rushia recently opened offices for medical practice in Riverside. Dr. Rushia, formerly of Kansas, has been doing work at the University Hospitals, Iowa City.

Dr. R. J. Saunders has become associated with Dr. Royal G. Anspach of Colfax. Dr. Saunders recently completed his internship at Grace Hospital, Detroit. He will assist Dr. Anspach in his work at the Colfax Clinic.

Dr. LeRoy F. von Lackum of Oelwein has begun the private practice of internal medicine in addition to continuing his practice as physician and surgeon. Dr. von Lackum, who is establishing new offices, has been associated with Dr. John P. Gallagher since coming to Oelwein last January.

Dr. Albert C. Voth, formerly of Topeka, Kan., has

accepted the position of psychologist at Clarinda State Hospital.

Dr. Raymond R. Zukaitis of Eau Claire, Wis., has become associated with Dr. Thomas J. Egan of Bancroft in the practice of medicine. Dr. Zukaitis recently completed his internship at St. Catherine's Hospital, Omaha, Neb.

Dr. Rex W. Spears, Dr. Glenn K. Arney, and Dr. C. A. VanderLaan established a group medical practice in Fort Madison September 1. Dr. Spears has been physician at the Santa Fe Hospital in Fort Madison the past six months; Dr. Arney has served as physician at the Topeka, Kan., hospital for more than a year, and Dr. VanderLaan has been in the department of dermatology and syphilology at the University Hospitals, Iowa City.

MARRIAGE ANNOUNCEMENTS

Holck-Smith

Miss Marvel Holck and Dr. Eugene Smith, both of Waterloo, were united in marriage September 3 in St. Edward's Catholic Chapel. Dr. Smith is a graduate of Creighton University School of Medicine, Omaha. Mrs. Smith attended Mt. Mercy College, Cedar Rapids, and received a music degree from Loras Conservatory, Dubuque. Following a month's trip to Miami, Fla., and Havana, Cuba, the couple will be at home in Waterloo.

McCoy-Martin

Miss Jeanne Louise McCoy and Dr. Josef R. Martin were married August 28 at the Methodist Church, Carroll, Iowa. Mrs. Martin, who is the daughter of Mr. and Mrs. Freeman R. McCoy of Carroll, received her B.A. degree from the State University of Iowa. Dr. Martin, son of Mrs. Rollin E. McCoy and Dr. Sidney D. Martin, was graduated from the Creighton University School of Medicine, Omaha. The couple will reside in Carroll where Dr. Martin is associated with the Carroll Medical Center.

DEATH NOTICES

Brock, Walter R., aged 78, of Sheldon, died September 11 following a heart attack suffered a week earlier. He was graduated from the Drake University College of Medicine, Des Moines, in 1894 and had practiced in Sheldon 53 years. He was a life member of the O'Brien County and Iowa State Medical Societies.

Houlihan, Thomas Joseph, aged 71, of Ida Grove, died September 2 at a Sioux City Hospital, having suffered a broken hip August 26. A graduate of Rush Medical College with the class of 1902, Dr. Houlihan had practiced in Ida Grove since 1903. He was a life member of the Ida County and Iowa State Medical Societies.

Parsons, Percy Leigh, aged 72, of Traer, died at his home August 21 after a long illness. Dr. Parsons was graduated from the State University of Iowa College of Homeopathic Medicine, Iowa City, in 1901. He practiced in Traer 35 years, having retired about 10 years ago. He was a life member of the Tama County and Iowa State Medical Societies.

Smith, Ferdinand Jacob Endres, aged 86, of Milford, died at his home on Miller's Bay August 27 after a brief illness. Dr. Smith was graduated from the State University of Iowa College of Medicine, Iowa City, in 1887 and had practiced at Alton and Little Rock, Iowa. He was a life member of the Dickinson County and Iowa State Medical Societies.

Soe, Peder, aged 86, of Kimballton, died August 18 in a Council Bluffs hospital following a recent heart attack. Dr. Soe came to the United States from Denmark in 1888 and was graduated from the Chicago Homeopathic Medical College in 1893, after which he practiced in Kimballton and Elk Horn. He was a life member of the Audubon County and Iowa State Medical Societies.

SPECIAL MONTHLY MEDICAL MEETINGS AT THE VETERANS ADMINISTRATION HOSPITAL

Des Moines, Iowa

The members of the medical profession of Iowa are cordially invited to attend our special postgraduate meetings held monthly on Monday evening at 8:00 p.m. in the main auditorium of this hospital during the academic season of 1948-49. The program for 1948 follows:

- | | |
|---------------------------------|--|
| September 27 | Dr. Juan A. del Regato, Columbia, Mo., "Treatment of Carcinoma of Lower Lip" |
| October 18 | Dr. Samuel Soskin, Chicago, Ill., "Modern Concept of Diabetes Mellitus" |
| November 1 | Col. J. E. Ash, Director, Army Institute of Pathology, Washington, D. C., "Rickettsial Diseases" |
| November 22 | Dr. Wm. Rienhoff, Jr., Baltimore, Md., "Primary Carcinoma of Lung" |
| December (date to be announced) | Dr. Charles Doan, Columbus, Ohio, (subject to be announced) |

A special announcement of each meeting will be sent by the Speakers Bureau of the State Medical Society to all doctors living within a radius of a hundred miles of Des Moines. Any doctor living farther away may procure a special announcement of each meeting by sending his name and address to the Chief Medical Officer of this institution, Dr. J. J. Tyson.

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USES AND LIMITATIONS OF STREPTOMYCIN IN TUBERCULOSIS

Karl H. Pfuetze, M.D., Cannon Falls, Minn.,
and

Marjorie M. Pyle, M.D., Rochester, Minn.

Since the discovery of streptomycin, announced in 1944,¹ the efficacy of this antibiotic against tuberculous infections has become well known. Possibly it is less well known that treatment with streptomycin, like every other form of treatment in tuberculosis, has its uses and its limitations. These were apparent in early clinical investigations,² but they are becoming more exactly defined in comprehensive studies carried out by the American Trudeau Society, the United States Public Health Service and the medical services of the army, navy and veterans administration.³

Uses of Streptomycin

Treatment with streptomycin has proved to be especially effective in some forms of extrapulmonary tuberculosis, including tuberculosis of the oropharynx, larynx and tracheobronchial tree; cutaneous sinuses originating in tuberculous foci; and tuberculous enteritis and peritonitis. In these conditions streptomycin can be said to be the most effective therapeutic agent known at the present time.

In disseminated tuberculosis, streptomycin frequently brings about a phenomenal clinical, roentgenographic and bacteriologic remission. In tuberculous meningitis the remission has usually proved to be temporary, although it may persist for many months. In generalized military tuberculosis without meningitis, remission has occurred more consistently, and in a considerable proportion of cases the disease remains arrested as long as two years after cessation of treatment.

In the treatment of genito-urinary tuberculosis streptomycin has been moderately successful. Alleviation of symptoms is often marked, bacilluria tends to be reduced or to disappear and

lesions accessible to visualization may show some degree of healing. But in only a few cases of renal tuberculosis has the urine remained free of *Mycobacterium tuberculosis* for more than a few months after termination of treatment. Because the probability of permanent arrest is not great, chemotherapy should not be substituted for surgical treatment but is most useful in bilateral renal tuberculosis, tuberculosis of a solitary kidney and possibly as preoperative and postoperative treatment for patients undergoing operations on the genito-urinary system.

In tuberculosis of bones and joints, streptomycin has been effective in at least half of the patients treated thus far.⁴ In early disease, treatment with streptomycin may result in disappearance of symptoms and roentgenographic evidence of healing. In chronic disease, orthopedic surgical treatment apparently is more successful after adequate chemotherapy, especially when draining sinuses are present.

There is increasing evidence that streptomycin is more or less effective in a number of other tuberculous conditions, including lymphadenitis, pericarditis, otitis media and ocular tuberculosis. Occasionally it has brought about marked improvement in scrofuloderma, although in most forms of skin tuberculosis the benefits of chemotherapy are likely to be temporary.

The complexity of pulmonary tuberculosis makes the application of streptomycin therapy a real problem. For the most part, streptomycin has been efficacious in pulmonary tuberculosis in the way predicted for a chemotherapeutic agent, that is, it has caused resolution of recent, exudative lesions; it has little or no lasting effect when destruction of tissue or other irreversible anatomic changes have occurred. It has its special use, therefore, in any case in which there is a significant amount of exudative disease, in which the prognosis without chemotherapy would be doubtful or poor. Improvement occurs in nearly all such cases, varying in degree from slight to marked. Clinical improvement may be

expected to occur within two to four weeks, roentgenographic evidence of improvement within one to three months.

The remission effected by antibacterial therapy is more or less limited and is subject to reversal. Therefore, it is important to fix the benefits of chemotherapy by instituting any other procedure which may be indicated. Especially in pulmonary tuberculosis, streptomycin should be considered an adjunct to other methods of treatment, including adequate rest, which is always fundamental in the therapy of tuberculosis, collapse therapy and pulmonary resection.

Because streptomycin tends to improve the patient's condition and to reduce the incidence of complications, indications for the surgical treatment of tuberculosis have been extended since the advent of chemotherapy. By causing resolution of exudative lesions, especially in the contralateral lung, streptomycin frequently makes thoracoplasty possible for patients who would be unfavorable candidates otherwise. Pulmonary resection and possibly such procedures as decortication of the lung and cavernostomy apparently can be performed more safely when streptomycin is given as preoperative and post-operative treatment.

The usefulness of streptomycin in conjunction with surgical treatment is not restricted to pulmonary conditions. The drug has been used to advantage in orthopedic surgery and may prove to be of value in surgery of the genito-urinary system and possibly in craniotomy for tuberculoma of the brain, if this operation proves to be feasible. Minor surgical procedures may be indicated in combination with chemotherapy. For example, in some cases debridement or drainage of tuberculous abscesses may improve the results of streptomycin therapy.

Theoretically the efficacy of streptomycin would be augmented by using it in combination with other drugs which also are antibacterial for tuberculosis. In studies in progress, streptomycin is being administered along with promin and para-aminosalicylic acid. There are two reasons why a combination of drugs may be desirable in chemotherapy. If the drugs are found to have an additive effect, minimal or subminimal doses of each can be used with consequent reduction in potential toxicity, although the total therapeutic effect may be equal to or even greater than that produced by the maximal dose of any one drug alone. More important, the use of drugs in combination may prevent or delay the occurrence of bacterial resistance, a phenomenon which constitutes one of the chief limitations to chemotherapy.

Limitations

The limitations of streptomycin in the treatment of tuberculosis stem from a few fundamental facts, which must be grasped in order that streptomycin may be used to best advantage. In the first place, some of the pathologic and immunologic factors peculiar to tuberculosis are not conducive to effective chemotherapy. The destructive and proliferative changes of advanced pulmonary disease present a mechanical problem which no antibacterial agent in itself could be expected to overcome. In a few forms of human tuberculosis, notably in renal tuberculosis, there is little natural tendency toward healing. In tuberculous lesions of the brain spontaneous healing is unknown, and streptomycin, being unable to penetrate brain tissue, has not altered the prognosis.

In the second place, streptomycin suppresses a tuberculous infection but seldom, if ever, eradicates it. Fortunately, in most forms of human tuberculosis, eradication of the infection is not necessary for clinical recovery of the patient. By suppressing an infection for a time, chemotherapy enables the patient to rally his natural forces of defense, so that an unfavorable trend may become favorable. The patient's subsequent course depends upon his individual ability to maintain his advantage. This is true, no matter what method has been used to bring about remission of a tuberculous process.

The deterrent effect of streptomycin is limited by the fact that, after prolonged exposure to the drug, strains of tubercle bacilli usually appear which are resistant to its effect. Clinical as well as experimental evidence indicates that treatment with streptomycin is useless when the infecting organisms are predominantly resistant. Furthermore, in most instances resistance is a persistent characteristic of bacterial strains and may prove to be permanent. It appears that the occurrence of resistant strains is due to selective multiplication of a few naturally resistant organisms.⁵ It is hoped, therefore, that simultaneous administration of two or more antibacterial agents may prevent or delay occurrence of bacterial resistance, since organisms naturally resistant to more than one drug can be expected to occur with extreme rarity. It would seem that the longer the period of effective chemotherapy, the greater is the patient's opportunity to gain firm control of his disease.

Because of the complication of bacterial resistance, it is important that chemotherapy be carefully timed in relation to other methods of treatment. For example, when thoracoplasty, pulmonary resection or even pneumothorax is

advisable, the procedure should be instituted when the patient has obtained maximal benefits from streptomycin but before the danger of relapse is present because of loss of antibiotic activity. When it is especially desirable that the suppressive effect of streptomycin extend into the post-operative period, as in pulmonary resection, pre-operative treatment should be relatively brief, probably not longer than two or three weeks.

In our opinion, because of the phenomenon of bacterial resistance, the suppressive effect of streptomycin should not be wasted by using the drug in minimal pulmonary tuberculosis or in any other condition for which other satisfactory treatment is available. In tuberculosis, no patient is spared the threat of recurrence. If streptomycin is used needlessly at one time, the patient may be deprived of valuable, perhaps lifesaving therapy at a later time, should a more serious form of the disease subsequently develop.

The usefulness of streptomycin is limited somewhat by potential toxicity of the drug. In early clinical investigations, a high percentage of patients who received a dose of more than 1 gm. a day suffered damage to the vestibular component of the eighth cranial nerve, as shown by caloric tests for labyrinthine function. Although the damage apparently is permanent, the disability is limited, because most patients soon learn to compensate for loss of vestibular function. Older persons tend to compensate less quickly and less completely than do young individuals.

Since it has been found practicable to use smaller doses of streptomycin, the potential toxicity has become minimal. Toxicity is a problem chiefly in patients in whom a high concentration of streptomycin in the blood develops, as when renal function is impaired, and in patients who acquire a sensitization to the drug. Patients in the latter class usually tolerate the drug after a rest period, particularly if a process of desensitization is carried out.

Dosage and Administration

The lower limits of dosage of streptomycin which may result in symptoms of toxicity appear to be in excess of 1 gm. a day. The lower limits for therapeutic effect have yet to be established. Obviously, the relation of dosage to both toxicity and therapeutic effect depend upon the body weight of the patient. In most cases a total daily dose of 1 gm. produces a satisfactory therapeutic result with little or no evidence of toxicity, and in some cases a dose of 0.5 gm. appears to be equally effective. It appears that when the total daily dose is at least 0.5 gm., such a

dose can be administered satisfactorily in two fractions given at twelve hour intervals, and perhaps the total amount can be given as well in one injection a day. However, as the minimal effective dose is approached, the rationale of infrequent administration becomes questionable.

Optimal duration of treatment is another variable of streptomycin therapy. In some cases a therapeutic result will be produced in a few weeks; in other cases maximal benefits are not noted for three or four months. Aside from the factors of expense and discomfort to the patient, the chief disadvantage of prolonged chemotherapy is that the probability of bacterial resistance increases as treatment is continued beyond five or six weeks.

Streptomycin is administered by intramuscular or deep subcutaneous injection. In our experience, remission occurs more consistently and is more likely to be prolonged in tuberculous meningitis when the drug is given intrathecally as well as intramuscularly. In all other forms of tuberculosis, it appears doubtful that intramuscular injection needs to be supplemented by any other method of administration. It has been found that streptomycin can be administered by deep subcutaneous as well as by intramuscular injection, with less discomfort to the patient from subcutaneous injection because smaller needles can be used. Since sensitization to streptomycin occurs not infrequently, it probably is advisable for nurses to wear rubber gloves when they administer the drug.

The availability of streptomycin as a therapeutic agent is enhanced by the ease with which it can be administered. It is to be hoped that this accessibility will not be abused. Tuberculosis is still a disease of many hazards and is best treated by the competent phthisiologist, who will become apprised of the uses and limitations of streptomycin as he adds chemotherapy to his therapeutic armamentarium.

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Discussion

Dr. J. Carl Painter, Dubuque: After this excellent presentation I shall attempt only to emphasize a few points upon which many famous men who are experienced in this field agree. I shall confine my remarks to the use of the drug in the treatment of pulmonary tuberculosis.

Physicians with the largest experience with the use of streptomycin are unwilling to use streptomycin in the treatment of minimal tuberculosis, because they know that the majority of these patients will recover with the usual orthodox treatment (bed rest, pneumothorax, pneumoperitoneum).

Streptomycin is far from harmless. It is toxic, and the immediate and remote bad effects are not accurately predictable. Because of this, it cannot be used routinely as other drugs which are less harmful. To wisely use this drug the treatment should be administered by a physician who is competent to judge the effectiveness of the drug on each individual patient, and by a physician who has the patient under proper observation and control so that evaluation of possible injurious effects may be made. My impression is that for such proper supervision the only proper place is in a hospital or sanatorium.

No benefit or response to the drug occurs in the fibrotic or fibrocasseous lesions with much fibrosis and cavity formation.

In general, the indications in pulmonary tuberculosis are to give the drug to patients with early acute, unstable exudative lesions, which are progressive despite good treatment along orthodox lines over a period of at least 60 days.

Streptomycin may prove advantageous when used to prepare a patient for some surgical procedure such as thoracoplasty. It might retard the activity of the tubercle bacilli and make surgery possible with less liability of reactivation. Also for a time after surgery the activity of the tubercle bacilli might be retarded by its use.

Streptomycin has a limited use in selected cases. It must be used wisely by competent physicians with the patient under close supervision.

Collapse therapy and bed rest still play indispensable roles in the treatment of pulmonary tuberculosis.

Dr. Charles W. Gray, Oakdale: Dr. Pfeutze has made many worthy points, and I would like to recall your attention to a few of them.

Only certain cases of tuberculosis are suitable for the use of streptomycin. In general, one can expect to obtain benefit when the lesion is young, new or acute and not when it is characterized by chronicity, fibrosis, or irreversible structural damage.

Another excellent point by Doctor Pfeutze is that there is an optimum time for the use of streptomycin in a given patient, and this timing in conjunction with the over-all plan of management is of utmost importance. For this reason principally, it should be clear to everyone that the drug should be used only by those who are competent in the field of tuber-

culosis and who have readily available all necessary laboratory and consultation services.

Our experience with streptomycin at Oakdale covers upwards of 100 patients. As a general statement, we are not overly impressed with the results obtained thus far. In addition, some of us are gaining a clinical impression that some patients with chronic fibrocasseous disease who take the drug, and in whom there is not a good indication for its use, do have a temporary period of clinical improvement, but that later they take a faster downhill course than would have normally been expected.

Certain of our cases have shown an interesting response to streptomycin. One girl in her early twenties had pulmonary tuberculosis which was brought under satisfactory control with pneumothorax. However, a complicating tuberculous enteritis continued to progress and was severe, so that the patient was very toxic, was becoming moribund, and had a life expectancy of only a few weeks. Her response to streptomycin was dramatic, and she has had an evident complete recovery now for eight months. She gained 40 pounds in 10 weeks.

A young man of Mexican descent entered the sanatorium with an acute tuberculous pneumonia involving all his right lung, and there was a spread into the left lung. He was acutely ill and toxic. He was treated with streptomycin for five months, in large dosage initially, and his clinical response was excellent. However, he has cavitation and positive sputum at the present time. His case illustrates the inhibitory rather than curative effect of streptomycin in tuberculosis.

An 11 year old Mexican girl entered Oakdale with pulmonary tuberculosis and was running a daily fever to 102 F. With the use of streptomycin her temperature made a rapid and permanent return to normal, along with a good weight gain, decline in sedimentation rate, and improvement in serial chest films.

Another patient without much parenchymal disease was given streptomycin for severe endobronchial tuberculosis. Her clinical response was good, and the bronchoscope findings showed considerable healing.

It is felt that streptomycin will make unnecessary some thoracic surgery in tuberculosis, and also that it will make possible the performance of procedures for arrest of pulmonary lesions which would have previously been attended with little success. In one of our cases, a pneumonectomy was performed but it was necessary to transect through caseous perihilar lymph nodes with resultant positive sputum immediately postoperative. However, the patient has now had negative sputum and no evidence of spread of her disease in the ensuing period of eight months' time. Another girl had a chronic bronchopleural-cutaneous tuberculous fistula in the left axilla as a sequela to attempted institution of pneumothorax. With the use of streptomycin, the drainage ceased within one week, the fistula healed within three weeks, her clinical condition improved nicely, and she has since undergone an uneventful thoracoplasty for the underlying pulmonary disease.

We have had one case of presumed tuberculoma of the cerebellum, referred by the Department of Neurology at the University Hospitals, and she made a complete clinical recovery with streptomycin. This is of interest because it is somewhat at variance with the prevailing ideas in the literature concerning tuberculous lesions of the brain.

We have had occasion to treat three cases of acute brucellosis recently. Streptomycin and sulfadiazine were used and we feel that the response to these drugs has been minimal and disappointing.

CHEMOTHERAPEUTIC AGENTS IN GENERAL SURGERY

Frank R. Peterson, M.D., Cedar Rapids

The advances in modern surgery have been tremendous during the last 30 years. They have been greater in the last 10 years than during the preceding 20. The great advances during the last decade have been primarily along two lines: first, extension of the field of surgery to include as routine procedures many operations which were previously taboo; and second, an over-all lowering of mortality even with the greater scope of the procedures done. These advances have been possible largely through the development of three scientific aids: (1) anesthesia, by providing controlled respiration while maintaining a combination of an adequate anesthetic and oxygenation; (2) the recognition in disease and trauma, inadvertent or surgical, of body electrolyte and fluid imbalance and the simple means of correction; and (3) antibiotics used as a chemotherapeutic agent to combat infection. The last has contributed the greatest measure of aid in the accomplishment of these advances.

Not only has chemotherapy provided a direct effective means of combatting many types of surgical infection, either established or impending, but it has also permitted the extension of the operative attack to procedures once considered prohibitive because of high mortality due to infection. Indirectly the surgeon finds his tasks easier because of the greater confidence of the patient due to a diminished fear of surgery.

This discussion will give consideration to three chemotherapeutic agents, the sulfonamide group, penicillin and streptomycin, and will attempt to evaluate each as a prophylactic and therapeutic agent in the infections predominantly encountered in general surgery.

Sulfonamide Prophylaxis. There is strong evidence that the local application of sulfonamides to contaminated wounds will not prevent the

development of infection. In fact, the systemic use is probably no more efficacious in this particular respect. However, an adequately high blood titre, especially of sulfadiazine, will to a great extent limit the infection to the primary wound, thereby preventing extension, and possibly also actually diminishing the degree of virulence of the contaminating organisms.

The benefit of sulfonamides in the prevention and control of infection in the peritoneal cavity due to contamination has been obvious. However, the direct placement of the drug there is questionably advantageous. Clinical and experimental evidence points to a very rapid absorption through peritoneal lymphatics, the titre of the drug in blood and peritoneal fluid being equalized very quickly, certainly in a few hours. The use of the drug systemically reveals a concentration in peritoneal fluids equal to that in the blood likewise in a few hours. The systemic use is more readily controlled and obviously is necessary if adequately prolonged titre is to be maintained. Furthermore local application in the abdomen has been responsible for an occasional intestinal obstruction due to inflammatory adhesions.

Sulfonamides by mouth greatly decrease the number of pathogenic bacteria in the intestinal tract as well as attenuating the virulence of those not destroyed. Currently succinylsulfathiazole is most generally used because of its high efficiency, low absorption rate and the lack of deleterious reactions. Its use for from four to six days prior to surgery of the intestinal tract practically eliminates the chance of postoperative peritonitis. The standard dosage is 6 to 8 gm. daily in divided dosages.

Penicillin Prophylaxis. In the management of contaminated wounds this drug used either locally or parenterally will probably not prevent infection in the wound. However, when given parenterally it can almost certainly be depended upon to limit to the confines of the wound any infection which does occur. Since the Staphylococcus is the most common contaminant and is particularly susceptible to the effect of penicillin, this drug is superior to the sulfonamides in the management of these wounds. Penicillin in adequate dosages parenterally during the preoperative and postoperative stages effectively controls most postoperative infections.

The drug is quite commonly applied locally within the peritoneal cavity either as a prophylactic or therapeutic agent, but lack of personal experience in its use in this manner permits no expression of opinion as to its efficacy. Last September Coppleson reported enthusiastically the

advantages of its use in this manner. He had observed the results in a large number and variety of cases after distributing 200,000 units or more of the dry penicillin over the intraperitoneal operative field. He emphasized its effectiveness particularly in operations on the biliary tract. This particular emphasis may be significant, for postoperative infections following such procedures are actually infrequent without any form of chemotherapy. One observation was reported which, if true, is at least of some interest. Paralytic ileus is less frequent and severe if penicillin is placed in the peritoneal cavity. Should this be true there is a distinct advantage to its use in this manner. Otherwise penicillin diffuses to and from the blood stream to equalize its concentration in blood and peritoneal exudates similar to the sulfonamides, and its use in the abdomen is therefore not considered advantageous.

Streptomycin Prophylaxis. Probably the use of this drug has little if any place in the prevention of infections in contaminated wounds. There is no doubt as to its efficacy in diminishing intestinal bacteria when given orally. This is its prime indication in prophylaxis. However, the sulfonamides are known to accomplish this well, and the cost is insignificant in comparison. In fact, the effectiveness of streptomycin in combatting surgical infection in other respects has been disappointing. It is far more toxic than either of the other drugs under consideration. Its clinical effectiveness is limited to very few organisms as contrasted to penicillin, and bacteria tend to develop rapidly a resistance to its action.

Those surgical diseases which are known to respond well to this drug are infections of the intrahepatic structures, probably including pyelophlebitis, bacteremia due to the gram-negative bacilli, peritonitis and tularemia. In the treatment of tularemia it probably is more effective than either penicillin or the sulfonamides, and should unquestionably be the drug of choice from the beginning. For cholangitis and liver abscesses with or without surgery penicillin may be equally effective, although it is recommended that with unfavorable results streptomycin be substituted or supplemented.

There are surgeons who contend that streptomycin is superior to penicillin for peritonitis secondary to enteric perforations. This contention will not be argued; however, it is the belief of the writer that penicillin is equally effective if the dosage is sufficiently large. For example, when gross contamination of the peritoneum has occurred optimum benefit cannot be expected with dosages less than 100,000 units every two hours.

This may be increased to 200,000 units every hour with impunity, and this evidence of low toxicity represents one of the great advantages of this drug over streptomycin. Dosages up to 100,000-000 units per day and continued for many days without ill effect have been reported.

In concluding this brief discussion on streptomycin it is admitted that favorable results in the treatment of surgical infections are frequently reported, but critical analysis would indicate that in only exceptional instances has it seemed to be more effective than penicillin when the latter is given in effective doses.

Sulfonamide Therapeutics. The evidence of the value of this drug in combatting acute infections due to the hemolytic streptococcus is overwhelming, and for the treatment of this type of septicemia it is remarkably efficient. Sulfadiazine particularly is readily tolerated and effective. Whether used alone or supplemented by other antibiotics it is indicated regularly in the treatment of severe mixed infections due to gram-negative and gram-positive bacteria such as occurs with enteric perforations.

After a little more than a decade of observation of the sulfonamide drugs certain definite limitations have been established. (1) Bacteria may be or become resistant to its action. (2) They have little effect on established abscesses. (3) Toxic reactions do occur and may be serious if not recognized early.

Penicillin Therapeutics. It is not inferred that penicillin has none of these drawbacks, but it is almost invariably effective, even against sulfonamide-fast bacteria, and although toxic effects are occasionally noted they are rarely consequential. Oral administration as yet is relatively ineffectual and such represents a minor drawback to its use except to hospitalized patients.

This drug, at this moment, is conceded to be the most efficient chemotherapeutic agent available for the management of most infections encountered in a general surgical practice. It is unquestionably the most effective against all staphylococcal infections, whether local or disseminating.

In the early stages of investigation of its advantages, there was less enthusiasm over its benefits than at the present time. Its limited availability necessitated its use largely in the more serious and relatively prolonged infections. Even in this group the results were often startling although failures were not uncommon because of the early intervention of multiple metastases, endocarditis and meningitis. Furthermore, many patients who recovered had prolonged illness because of metastatic abscesses requiring subsequent drainage

before recovery. It has, with time, become apparent that the results are optimum when the diagnosis is made very early and adequate penicillin therapy is prescribed before metastases, endocarditis or meningitis has occurred. Under these circumstances many patients will show a very prompt subsidence of clinical signs of infection and a complete resolution without necrosis of tissues at the primary site. This fact has been repeatedly shown in conditions such as *acute hematogenous osteomyelitis*. If the diagnosis is made early, especially during the first three days, and adequate treatment is immediately started, the results are uniformly excellent. The possible exception to this statement is the patient with fulminating infection who may be moribund even in 48 hours. Even in such instances huge doses of penicillin together with large amounts of fluids intravenously may follow, and if improvement occurs to any extent surgical drainage of the bone by multiple drill holes may be lifesaving. In general 35,000 to 50,000 units every three or four hours will be adequate although if marked improvement is not noted within 48 to 72 hours or the infection is obviously severe at the outset either the dosage should be increased or the interval between injections lessened or both.

It must be emphasized that the early diagnosis of acute osteomyelitis must be made entirely upon the clinical signs and symptoms and without such aids as the x-ray which at this stage consistently reveals no change in bone. It is also emphasized that when only a suspicion of this disease is established it is better to start penicillin therapy immediately rather than to delay treatment until the diagnosis is evident.

Delay of treatment beyond 72 hours and especially for from five to eight days does not obviate the control of general symptoms and signs of infection, but the need for ultimate surgical intervention increases in incidence in proportion to the lapse of time after onset and the beginning of therapy. It is true that the extent of the infection and the degree of necrosis and suppuration may have been lessened by therapy, but surgery to drain abscesses and remove sequestra is usually ultimately necessary in the late cases.

Penicillin therapy rarely accomplishes a resolution of a chronic osteomyelitis. Its use is indicated in acute exacerbations and should be used routinely before and after the surgical treatment which should be no less radical than before the advent of penicillin.

Carbuncle. As may be presumed, sulfonamide therapy for carbuncles proved to be disappointing. However, penicillin therapy alters greatly the

course of these infections and is the agent of choice. As in osteomyelitis the most favorable results occur when therapy is started early. A dosage of from 15,000 to 25,000 units every three hours and continued for from a week to ten days will accomplish a complete resolution in approximately half of the cases if treatment is begun in the first 24 to 48 hours after the first sign of this infection. If therapy is delayed, necrosis and suppuration are the rule. Even so, radical excision previously indicated is rarely necessary. Penicillin has definitely reduced the mortality and morbidity of this type of infection.

Staphylococcus Septicemia. Whereas sulfonamide therapy has been shown to diminish the mortality of this serious type of infection, it is much less efficacious than penicillin. Deaths do occur even with adequate penicillin. However, most of the deaths occur in the fulminating group, whose treatment is begun relatively late, and especially in those cases who develop extensive metastatic abscesses or endocardial vegetations. The treatment must be vigorous and prolonged, not less than 35,000 to 75,000 units every three to four hours, the amount being dependent upon early beneficial results, and it should be continued for two or more weeks. Surgery to drain abscesses is indicated whenever found. Relapses are common, especially in the chronic type, but tend to respond favorably to resumed therapy.

Gas Gangrene. Of the three chemotherapeutic agents under discussion, penicillin only has shown any beneficial therapeutic action. Much credit is due Altemeier¹ who has done extensive controlled experiments using the various chemotherapeutic agents in induced gas gangrene in guinea pigs. The excellent results obtained have been comparable in a group of clinical cases. He has established the facts that penicillin is beneficial, that very large doses are necessary, and that the earlier it is used after the onset of infection the greater its value. The dosage recommended is 1,000,000 units or more every three hours, a lesser dosage being relatively ineffective. However, it must never be substituted for surgery. The latter is essential either to allow decompression by splitting muscle fascia and separating muscle planes or amputation as necessary. The use of penicillin in conjunction with surgery tends to lengthen the period before surgery is mandatory, inhibits symbiotic bacteria, makes amputations less often needed, and thereby improves morbidity and mortality.

Human Bite Infections. These are notoriously difficult to control by ordinary means. Penicillin offers considerable promise in the control of these

infections and is far more efficacious than the sulfonamides. If surgery is also used when indicated, the combined treatment offers much more than either to the exclusion of the other.

Actinomycosis. Penicillin is definitely effective in the control of these infections. The sulfonamides alone have been disappointing. The combination of penicillin in doses of 40,000 to 60,000 units every three hours plus sulfadiazine has been shown to be more effective than penicillin alone. The treatment must be prolonged over a period of one to two months or longer, and we have observed several cases of the deep facial type as well as intraperitoneal infections completely resolve. Some recurrences have been seen, but further therapy has been as efficacious as before. These drugs have definitely accomplished more than surgery in the deep-seated involvements.

There are certain warnings that seem pertinent after a sufficient lapse of time has allowed a thorough review of the use of these drugs. First of all a diagnosis of the cause of symptoms of infection is no less mandatory now than before the advent of these agents. There are numerous examples available of the masking of symptoms of infection during the progression of pathology, for example, in the appendix, to gangrene and perforation. Such management cannot be condoned, even though chemotherapeutic agents may control the complication. When surgery can be done safely as with acute appendicitis and prevent the need for this less satisfactory management, there can be only one choice. We have seen undiagnosed large subphrenic abscesses from various causes remain relatively innocuous for months due to the effect of chemotherapeutic agents and the drainage of a large amount of foul pus, and complete recovery has thereby been unduly delayed. There has been a rather widespread tendency to treat patients with an obvious acute cholecystitis by the administration of penicillin with a seemingly beneficial effect during the early days after the onset. However, gangrene and perforations are no less common because of this management. It must be borne in mind that the great majority of acute cholecystic episodes are due to mechanical abnormalities, and perforations and gangrene are due to mechanically caused eschemia rather than infection. The generally accepted policy of recommending surgery during the first 48 hours of an acute cholecystic episode in that group which does not respond promptly to morphine or nitroglycerin still is tenable, and offers the optimum therapy

because the morbidity and mortality are lower. The masking of symptoms by these agents may do irreversible damage.

Aside from the need for a diagnosis in every instance possible, there should be before us constantly, whenever the use of chemotherapeutic agent is considered, this question: "Is there a definite indication for its use?" There is less evidence probably that the use of penicillin produces in an individual a decreasing potentiality in the control of infection than do the sulfonamides; however, all of the drugs have shown a greater or lesser tendency when used over a prolonged period, to lose their efficiency. Furthermore, deleterious reactions do occur with all, and that reaction, whether it be allergic or some other comparable explanation, is increased in severity by subsequent administration.

We are not over-optimistic in believing that chemotherapeutic agents are yet to be discovered which will have greater antibacterial properties than any now known and will have less deleterious effects on the individual. However, those now available to us have so markedly decreased the hazard of infection, one of the outstanding bugbears in general surgery, that we must not by carelessness or inadvertence allow these drugs to become less useful.

THE ANTIBIOTICS IN INTERNAL MEDICINE

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Nowhere in the field of medicine is the picture changing so rapidly as in the treatment of infectious diseases. The best therapy which the physician could offer his patient a year ago is now hopelessly obsolete. The textbooks are out of date before they come off the press. Of principal interest to the practitioner of medicine during the last year are the results of the widespread clinical use of streptomycin for the first time, the newer applications of penicillin in the treatment of disease, and the introduction of procaine penicillin.

Since the first production of penicillin for clinical use intensive studies have been in progress on the chemistry of the drug. These have resulted in the separation and characterization of penicillins G, F, K and X and evaluation of their properties. From the facts thus gained the manufacturers have concentrated on the production of crystalline penicillin G almost exclusively. The preparations have thus been made vastly more

¹Altemeier, W. A.: *Chemotherapy in Surgery*. J. Missouri M. A., xlv: 803-809 (November) 1947.

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stable and the cost of treating disease has been lessened greatly.

Procaine Penicillin. Steady progress has been made in methods of administration to reduce the frequency of intramuscular injections of the drug. A definite advance was made when Romansky¹ and his coworkers introduced the method of intramuscular injection of penicillin suspended in peanut oil and beeswax. This permits slow absorption from a depot in the muscle so that blood levels of the drug, therapeutic for many bacterial infections, can be satisfactorily maintained by a single injection of 300,000 units every 12 to 24 hours. It was found that a single daily dose injected at 9 p. m. maintained a higher blood level during the latter part of the 24 hour period than a similar dose given in the morning. This is attributed to the lessened muscular activity of the patient at night which produces a slower release of the drug from the site of injection. With two injections, spaced 12 hours apart, a satisfactory level of the drug in the blood can be maintained throughout the course of the disease, provided the bacteria are penicillin-sensitive. Three objections have been encountered to the use of penicillin in oil and wax. The material is so viscous that it must be injected through a large needle. It is painful to the patient. Finally, and most important, frequent severe urticaria has resulted from sensitivity to the beeswax. The urticaria is often prolonged and troublesome.

A search has been made to find salts of penicillin which are sparingly soluble so that release of the drug from the site of injection is slow. The procaine salt of penicillin was found to meet this requirement² and was recently released for general use. It is relatively insoluble and releases a steady supply of penicillin G slowly when injected intramuscularly. It is suspended in sesame oil so that troublesome urticarial reactions from beeswax are avoided. The oily suspension is less viscid than the oil and wax preparation so that it may be injected through a 20-gauge needle. The injection of procaine penicillin is not so painful as the oil and wax preparation. This is due more to the absence of wax than to the presence of the procaine molecule. There is said not to be sufficient procaine in the preparation to serve as a local anesthetic. Finally, somewhat higher blood levels are sustained than is the case with penicillin in oil and wax. A cubic centimeter of the oily preparation contains 300,000 units of procaine penicillin. This amount is given every 12 to 24 hours, depending on the blood levels desired. Data are not yet available to show whether increasing the dose will augment the concentration in the

blood at any one time. It is hoped that this method of administration will obviate the necessity for injections at three hour intervals in some infections.

Oral Penicillin. Continued experience with the administration of penicillin by mouth in the form of the calcium salt, either buffered or not, seems to indicate that from two to eight times the parenteral dose is required. The successful use of this route has been reported³ in the treatment of pneumonia, cellulitis, and streptococcus pharyngotonsillitis in children.

Penicillin Aerosols. The application of penicillin directly to the mucous membranes of the respiratory tract, including the bronchial tree, has received much attention. The solution of the drug may be divided into small droplets and forced into the air passages by a nebulizer attached to a stream of oxygen. A combination of steam generator and aerosolizer may be employed.⁴ The patient's head may be placed in a tent or chamber filled with aerosol. There is no question that therapeutic blood levels are attained by the inhalation of aerosols of the drug. Recent experiments in animals, however, have raised the doubt that the aerosols reach that part of the bronchial tree in which the infection resides. It seems possible that the beneficial effects may be due to absorption into the blood stream rather than to the topical application of the drug.

Indications for Penicillin and Streptomycin. Whenever an infecting organism is susceptible both to penicillin and streptomycin, the former drug is preferred because of the lesser cost and the relative lack of toxicity. The untoward reactions from streptomycin are frequent and severe; they increase in incidence with augmented dosage. There are histamine-like reactions consisting of flushing and headache. Vertigo and deafness may occur from the toxic effect on the auditory nerve. Fever, skin eruptions, and eosinophilia are not uncommon. In contrast, the toxic reactions from penicillin are relatively rare and usually transient.

In general, penicillin is more suitable in the treatment of infections due to gram-positive organisms such as Staphylococci, Streptococci, the anaerobic bacilli, pneumococci, and the anthrax bacillus. The gram-negative gonococci and meningococci are also highly susceptible. The drug is at least partially effective in syphilis, leptospiral infections, Vincent's infections, rat bite fever, and actinomycosis. It is a useful adjuvant to antitoxin in the treatment of diphtheria.

At present the use of streptomycin is reserved for the treatment of certain infections caused by gram-negative organisms such as Hemophilus in-

fluenzae, *B. coli*, *Proteus vulgaris*, Friedlander's bacillus, *B. pyocyaneus*, *B. aerogenes*, and *Bact. tularensis*. It also has an effect against the tubercle bacillus, which remains to be evaluated fully. Streptomycin is also used against strains of organisms which prove resistant or fast to penicillin.

Pneumonia. *Pneumococcus pneumonia* is best treated by the intramuscular injection of aqueous penicillin in doses of 25,000 to 50,000 units every three hours. When empyema develops, 50,000 units should be instilled into the pleural cavity every 12 hours until resolution occurs or surgical drainage seems indicated. Recently the oral administration of calcium penicillin has been reported successful³ in dosages of 50,000 to 100,000 units every three hours. The total amount of the drug used in most cases ranged from 500,000 to 2,000,000 units and the duration of therapy was from two to seven days. The oral use of penicillin was not advised for the treatment of empyema.

The pneumonia caused by Friedlander's bacillus seems to be benefited by the administration of 250 to 300 mg. of streptomycin intramuscularly every three hours.

Tularemia. This disease proved highly refractory to penicillin but it is satisfactorily treated by streptomycin in doses of 60 to 125 mg. every three to four hours for five to seven days. For severe infections, doses of 250 mg. every three hours are indicated.

Meningitis. *Meningococcus meningitis* may be treated by the intramuscular injection of 25,000 to 50,000 units of penicillin every three hours, together with the intrathecal injection of 10,000 units in 10 cc. of isotonic saline solution, once or twice daily. There is disagreement as to whether intraspinal injection is effective. There is much evidence to show that penicillin is no more effective than sulfadiazine or sulfathiazole in the treatment of meningococcus infections.

Meningitis caused by *B. coli*, *Proteus vulgaris*, Friedlander's bacillus, and *B. pyocyaneus* is best treated by the intramuscular injection of 60 to 125 mg. of streptomycin every three hours, with concurrent intrathecal instillations of 50 to 200 mg. once daily.

Bacteremia. Blood stream infections caused by penicillin-sensitive organisms should be treated by intramuscular injections of 25,000 to 50,000 units of penicillin every three hours, or by 120,000 to 200,000 units daily by continuous intramuscular drip.

For bacteremia from bacteria resistant to penicillin and susceptible to streptomycin, the latter

drug should be given in doses of 250 to 500 mg. every three hours intramuscularly.

Subacute Bacterial Endocarditis. With the accumulating experience in the treatment of this disease the tendency is to give larger doses of drugs. In infections with penicillin-susceptible strains of *Streptococcus viridans* and *hemolyticus* it seems preferable to administer from 100,000 to 250,000 units every three hours intramuscularly, or 800,000 to 1,200,000 units daily in continuous intramuscular drip. The treatment should be continued for a month or six weeks and then the patient should be observed carefully for several months for signs of recurrence and the appearance of positive blood cultures. Very few reports are yet available of cases in which treatment was given with streptomycin. The advised dosage of streptomycin is 250 to 500 mg. intramuscularly every three hours for at least one month.

The infection in subacute bacterial endocarditis is completely arrested in about one-half the reported cases. It is becoming increasingly apparent, however, that many patients, who formerly died of the infection, now survive to become hopeless cardiac cripples, or succumb to heart failure as a result of injury to the cardiac valves. This emphasizes the need for earlier diagnosis and treatment of the infection before irreparable damage has been done.

Respiratory Infections in Asthma. There is agreement that the administration of penicillin is beneficial to patients with intrinsic asthma during the acute respiratory infections to which they are prone. Some authors⁵ believe that the intramuscular injection of 25,000 units of penicillin every three hours is the method of choice. There is a tendency among many,⁴ however, to rely upon the inhalation of aerosols of the drug produced and administered by various ingenious mechanisms. The suggested dosage by inhalation is 30,000 to 50,000 units three or four times daily. Occasionally ammonium chloride, aminophyllin, or sodium sulfadiazine is aerosolized along with the penicillin.

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THE USE OF ANTIBIOTICS IN THE TREATMENT OF THE MORE COMMON URINARY TRACT INFECTIONS

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Penicillin and streptomycin have been used in the treatment of gonorrhea, nonspecific urethritis, prostatitis, cystitis, pyelitis and pyelonephritis and in urinary tract tuberculosis. In some cases the results have been excellent; in others they have been poor. In all, however, the antibiotics have proved themselves superior to all other drugs for the treatment of infections of the urinary tract. However, they have definitely not eliminated the use of the sulfonamides, other drugs and other measures in appropriate situations.

Certain general statements may be made with regard to the use of the substances in this location. (1) It is extremely important that associated pathologic lesions be adequately treated so that excellent drainage of the infected region may be instituted. If this is not done, no results or very early recurrence of the infection with antibiotic resistant organisms will occur. It is also important in this regard to realize that the urinary tract infection may be the symptom or sign of a primary urinary tract lesion which will not be discovered unless careful complete study is made—and clearing up of the infection by the use of antibiotics may give the physician and the patient a false sense of security. (2) In general, gram-positive organisms will respond to penicillin, gram-negative organisms to streptomycin. If a mixed infection is present the drugs can be used in combination with one another or with the sulfonamides. (3) Adequate amounts of the drug must be applied or secured at the point where the infection is taking place. Sometimes the best mode of administration is the topical one; sometimes oral administration is adequate and best. Usually intramuscular or intravenous injection is the method of choice. (4) It is very important to use large amounts of drug in the first few days of treatment in order to destroy all the organisms as soon as possible and before they have had an opportunity to develop a resistance to these antibiotics.

Gonorrhea

Penicillin is the antibiotic of choice; in fact, it is the drug of choice in the treatment of gonorrheal infection. It is far superior to any other drugs which have been used and has changed the clinical picture of gonorrhea tremendously. One thing that has been learned from its use as more and more cases have been treated with it is that

the original dosage was too small. It is my practice to give 1,200,000 units of penicillin intramuscularly daily in divided doses for a period of five days. This gives a large dose immediately, kills off the organisms before they can develop fastness to the drug, and has produced good results in the few cases which I have seen. A very high percentage of cures in gonorrheal infection treated with smaller doses of penicillin have been obtained and reported, but I feel that to be on the safe side and to obtain the best results possible large doses should be used.

There is much evidence that oral penicillin is of value in the treatment of gonorrhea. We have used it here, giving two capsules five times a day for a period of five days, each capsule containing 50,000 units of penicillin buffered with amphojel. Of course this corresponds to a much smaller dosage than the dosage given intramuscularly, and we feel that it is not preferable to the intramuscular method. Another satisfactory method is the intramuscular administration of 600,000 units of duracillin daily for a period of five days. This keeps up the blood level and the urinary level of penicillin to that required for adequate destruction of the gonococcal organisms.

Gonorrhea has also been treated with streptomycin. With intramuscular streptomycin good results have been obtained, and this drug has been used especially in those cases where a fastness to penicillin has taken place. Penicillin, however, remains the undisputed therapeutic agent in the treatment of gonorrhea. Streptomycin is of no value when given orally in the treatment of gonorrhea since it is not absorbed to any extent from the gastro-intestinal canal. Therefore it must be given intramuscularly or intravenously. Gonorrhea in the female responds well to the antibiotics and the treatment there does not differ from that in the male.

Cystitis, Pyelitis and Pyelonephritis

Cystitis, pyelitis and pyelonephritis have responded remarkably to penicillin, streptomycin, or a combination of penicillin and streptomycin in large doses. At least 1,200,000 units of penicillin or from 2.0 to 4.0 gm. of streptomycin in divided doses should be given daily for a period of four days. If a response is not obtained by the use of one or the other, or a combination of these drugs, the chances are that inadequate drainage of the infected area is present, or that some associated pathologic process is present. It is therefore extremely important while one is treating a urinary tract infection with the antibiotics to have a complete urologic examination so that a complete

understanding of the pathologic lesion present is obtained. Urinary tract infections are usually due to the following organisms, either in combination or alone: B-proteus, B-coli, B-pyocyaneus, Streptococcus faecalis, or the Staphylococcus aureus. If the organisms are gram-negative streptomycin usually is more effective; if the organisms are gram-positive penicillin is usually more effective. However, either or both can clear up a urinary tract infection if given in adequate dosage. It is extremely important, and I am re-emphasizing this, to give large doses early to avoid the danger of the development of resistance to the antibiotics by the organisms. Occasionally in the treatment of urinary tract infections such as pyelitis and cystitis it is of value to use the penicillin and streptomycin in topical form. The streptomycin may be dissolved in saline and instilled in the kidney pelvis or in the bladder—1.0 gram of streptomycin and about 100 cc. of saline works out nicely. Similarly 2,000 or 3,000 units of penicillin may be dissolved in 50 cc. of saline and instilled in the kidney pelvis or in the bladder.

Infection of the urinary tract with tuberculosis thus far has not responded significantly to antibiotic therapy. Penicillin has been of no value. Streptomycin has been of some value, especially in conjunction with a derivative of chaulmoogra oil. However, this is still in the experimental stage. Streptomycin for the treatment of urinary tract tuberculosis must be given in large doses, 1.0 to 3.0 gm. daily, over a period of many months in order to hope to get any effect.

Prostatitis

Nonspecific prostatitis has proved to be singularly resistant to antibiotic therapy. The reason for this is due to the inability of the physician to obtain adequate drainage of the infected ducts and glands. Prostatic massage and other local therapy is very important in chronic prostatitis, in addition to the use of the antibiotics in very large doses. I have given as high as 2,000,000 units of penicillin daily over a period of five to 10 days in patients with prostatitis.

The Prophylactic Use of the Antibiotics

Penicillin and streptomycin are useful as a prophylaxis prior to certain types of operation upon the urinary tract where infection is known to be an important complication. A combination of oral streptomycin and intramuscular penicillin has proved to be of extreme value prophylactically prior to uretero-intestinal anastomosis. The penicillin clears up the infection in the urinary tract; the oral streptomycin lowers the number of viable organisms in the intestinal tract sig-

nificantly. Our practice is to give 4.0 gm. of streptomycin in divided doses in milk daily. In addition, 100,000 units of penicillin are given every three hours intramuscularly. This is kept up for four days and then the uretero-intestinal anastomosis is performed. Following this the penicillin is kept up for a period of five days. The streptomycin is discontinued. It is our practice to start penicillin therapy 24 hours prior to transurethral prostatic resection and the results have been very gratifying. There is some question in the minds of many urologists with regard to the use of penicillin or streptomycin, or both, as a prophylactic prior to operative procedures upon the urinary tract. They feel that it should not be used until definite evidence of a severe infection has taken place because otherwise a strain of resistant organisms might be developed. However our results have been so good with the use of prophylactic streptomycin and penicillin that we feel the objection is not a weighty one.

Toxic Effects

We have observed relatively few toxic effects from the use of the antibiotics in the treatment of urinary tract infections. The most common one is an urticarial skin lesion which disappears as soon as the antibiotic is discontinued. We have had one case of marked oliguria after a week of penicillin therapy. This cleared up when the penicillin was discontinued. Eighth nerve deafness has been described with streptomycin. We have not seen it. We have also had a few cases where persistence of febrile reactions was apparently due to penicillin therapy. The febrile reaction disappeared when the antibiotic was stopped. All in all the toxic effects have been minimal.

Mode of Administration and Dosage

The oral method of administration has not been used to great extent in the treatment of the above infections. As I have outlined, it is extremely important to obtain a large dosage in the first few days of the treatment of the infection. This cannot usually be obtained by the oral method. However, occasionally for an ambulatory patient, especially in the treatment of gonorrhea, the oral method is of value. We have used capsules containing 50,000 units of penicillin buffered with amphotol. We have given two or three such capsules five or six times a day. Oral streptomycin is of no value except where infections of the intestinal tract are being attacked. As far as urology is concerned it is only of value prior to uretero-intestinal anastomosis. Topical administration has been used frequently. It is of

some value in chronic cystitis and chronic pyelonephritis. Both penicillin and streptomycin may be used. They should be used in about 1,000,000 units to 100 cc. of saline solution. The method of choice has been the intramuscular one. One hundred thousand units of penicillin intramuscularly every three hours is the favorite way of administering the drug. In children 25,000 and 50,000 units every three hours have been used without any difficulty and with gratifying results. Streptomycin may be given in doses of 250 mg. intramuscularly every three hours, or 125 mg. every three hours, depending upon the dosage desired. Duracillin has been used recently. This cuts down the number of dosages needed because it maintains a slow absorption and thus maintains the blood level for a much longer time than with the ordinary method of administration. Three hundred thousand units given three times over a period of 24 hours is very satisfactory.

Conclusions

Penicillin and streptomycin have been used in the treatment of urinary tract infection and have proved to be of great value. Penicillin is especially useful in the treatment of gonorrhea. Penicillin and streptomycin together are valuable in the treatment of nonspecific urethritis, cystitis, pyelitis and pyelonephritis. Nonspecific prostatitis does not respond well to antibiotic therapy. Urinary tract tuberculosis does not respond to penicillin but probably will show some response to prolonged streptomycin therapy in conjunction with chaulmoogra oil treatment. This is in the experimental stage. The use of the antibiotics has not eliminated the use of the sulfonamides or other drugs and other measures in appropriate situations. In fact, frequently the combination of the sulfonamides, other drugs and the antibiotics has given results which could not be obtained by the use of any one alone.

CANCER OF THE LEFT SIDE OF THE COLON

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Carcinoma of the left side of the colon is one of the more common malignancies, and is amenable to treatment under favorable circumstances. In the large medical centers the surgical management of these cases has been so perfected that mortality rates of .8 per cent to 7 or 8 per cent, and five year cures of well over 50 per cent, are common. Seventy to 80 per cent of cases are

operated for cure. Such results can and must be brought to the general population of Iowa to an increasing extent.

Diagnostic methods and operative procedures have been worked out in sufficient detail and are sufficiently standardized that they may be successfully used in the smaller medical centers throughout the state. No more elaborate equipment and facilities are required for this work than are found in any hospital that is well equipped to do general surgery. The doing of this work in a community is the greatest stimulus available to earlier diagnosis and more adequate treatment by the local practitioners.

In our community, I have collected 40 cases of carcinoma of the left side of the colon, which Dr. E. B. Howell and I have cared for since 1941, and one case each from 1937 and 1938. Such a series is rather difficult to collect in private practice where indexing is not always what one might wish, and is too small for any serious statistical deductions, but it may have some value as representing an experience in a smaller medical center—the type of community of which Iowa is so largely composed. Thirty of these cases, or 75 per cent, were considered operable. Six died—a mortality of 20 per cent. Of the 24 survivors, seven have died of recurrences, one from a coronary thrombosis, and one died six and a half years after operation of unknown cause—a late mortality of 37 per cent. Thus 35 per cent of the entire series and 50 per cent of the operable group are alive and apparently free of recurrences. Only two of the group, however, can be classified as five-year cures.

Diagnosis

Improvement in our results demands, first of all, earlier diagnosis. In Connecticut¹, in a series of 604 cases, 73 per cent of patients with carcinoma of the colon saw a doctor within three months of the onset of symptoms, but only 42 per cent of these patients were admitted to the hospital at that time. In carcinoma of the rectum, 66 per cent saw a doctor within three months, and 20 per cent were admitted to the hospital within that time. Several investigators have presented similar figures. This places a considerable part of the responsibility for late diagnosis directly on our shoulders.

Why has diagnosis lagged so far behind the other phases of study of this disease? Probably the most important reason is that about 70 per cent of gastro-intestinal complaints are on a functional basis, and the most common of these complaints is gas. One comes to disregard this com-

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plaint at about the time it arises from a carcinoma. Another reason for our failure is that the early symptoms are so indefinite and so poorly localized. A third reason is the inadequate, improper use of diagnostic procedures. However, alibis do not cure cancer and early diagnosis does. The question is how to pick those cases which come to us early, without such an elaborate ritual as to make it impractical. I believe our present sorry record can be vastly improved by a few well directed questions in the history and a few simple diagnostic procedures properly carried out.

The pain in carcinoma of the left side of the colon is probably due to minor grades of obstruction or ulceration and infection of the neoplasm. Pain is listed as the first symptom in the majority of cases by Burke¹, Bielen², Collier and Berry³. This abdominal distress varies from a mild dyspepsia to the severe cramps of the late case with intestinal obstruction. Even in the mild cases the pain is commonly of a colicky, poorly localized character. It is to be differentiated from distress due to functional causes by being definitely identifiable by the patient as something abnormal, of fairly recent origin.

The second most common symptom is change in bowel habit—occurring in 70 to 80 per cent of cases. Increasing constipation was present in 42.9 per cent of cases reported by Collier and Berry³, while diarrhea was observed by the patient in 41.3 per cent of cases. Alternating diarrhea and constipation occurs less commonly but is quite typical of carcinoma of the sigmoid.

Rectal bleeding is another cardinal symptom occurring in about half of the patients. Since it occurs so frequently in hemorrhoids and fissure-in-ano, the symptom is often disregarded. The source should be definitely determined in every case of rectal bleeding.

Loss of weight and strength is a late symptom, but is of great significance when it occurs.

When a patient gives us any one of the cardinal symptoms as a complaint, namely poorly localized indefinite colicky abdominal pain, change in the bowel habit, gross rectal bleeding, loss of weight and strength, we must immediately think of carcinoma of the colon and establish or rule out its presence by more detailed history and appropriate diagnostic procedures.

There are three diagnostic methods which should be carried out in the following order: digital examination of the rectum, sigmoidoscopic examination, and x-ray of the colon. Lahey⁴ found 75 per cent of carcinomas of the colon in the sigmoid, recto-sigmoid and rectum. A carefully made digital examination with the patient

lying on his side, straining down and knees drawn up, will discover a large per cent of this group. This examination is so quickly and easily done that there is never an excuse for its omission.

The second procedure—sigmoidoscopy—is somewhat more difficult. It is better done by an expert, but if such is not available it may be readily learned by any practitioner interested enough to try. The bowel must be clean, which is best accomplished by one or two ounces of castor oil the night before, followed by an enema three to four hours before the examination. The x-ray is notoriously unreliable in that portion of bowel visualized by the sigmoidoscope. One may follow blood in the bowel to its source, or determine that it comes from a level higher than one can visualize. A biopsy is easily taken from small or questionable lesions. One can differentiate an inflammatory lesion such as diverticulitis from carcinoma.

The most accurate method of diagnosis above the rectosigmoid is the barium enema. However, many mistakes are made because of the improper use of x-ray in diagnosis, or from too great a dependence on the findings. If carcinoma of the colon is suspected, the sigmoidoscopic examination must be made before any barium is given for two reasons. It takes a long time to cleanse the bowel surface sufficiently to permit adequate visualization, and barium should not be introduced above a rectal or recto-sigmoid lesion because of the danger of its forming hard masses. If the sigmoidoscopic examination does not reveal the lesion, a barium enema should precede the taking of barium by mouth, again because of the difficulty of getting a large amount of barium past a partially obstructing lesion of the colon, and because barium by mouth is of little value in diagnosis of organic lesions of the colon. One must remember that, no matter how carefully the patient is prepared or how expert the roentgenologist, x-ray findings are not infallible. Positive findings need to be checked when they do not fit the clinical findings. A couple of years ago, I explored an abdomen for a partially obstructing lesion of the sigmoid that was found on two separate x-ray examinations. The sigmoid was normal, but the patient died of a large frontal lobe tumor. When symptoms continue in a case with negative x-ray findings, and continue to suggest a lesion of the colon, the barium enema should be repeated without too great a lapse of time.

Treatment

The treatment of operable lesions of the left side of the colon and rectum has shown marked improvement in recent years. Collier and

Vaughan⁵ report 112 cases of resection of the colon for operable lesions, with one death—an .8 per cent mortality. Jones⁸ reports 77 lesions of the left side of the colon resected by a modified Mikulicz technic, with a mortality of 6.5 per cent, and 213 one stage abdominoperineal resections with a mortality of 2.8 per cent. Romano and Trachtenburg⁶, reporting 228 cases, reported a mortality of 71 per cent in 1935 which decreased to 28 per cent in 1941. Oughterson¹ reported a 33 per cent mortality in 254 operable cases collected from the hospitals of Hartford, Waterbury and New Haven, Conn.

We will not go into the many highly technical and controversial aspects of the treatment, which are a subject in themselves and are well covered in recent literature. It will suffice to state that the preoperative preparation must be adequate. Resection of left side of colon down to the rectosigmoid may be done by a Mikulicz procedure, or followed by primary anastomosis. Five of our cases were resected and a primary anastomosis done, with one death. This patient had had previous attacks of cardiac decompensation and apparently died from cardiac failure without evidence of peritonitis. Carcinoma of the rectosigmoid and rectum is usually removed by a one-stage abdominoperineal resection. All are difficult operations which should not be undertaken by the occasional operator.

Those cases with acute intestinal obstruction present special problems. Gruenfeld⁷ reports that one in five to one in three suffers such an attack. Vomiting is often late when the ileocecal valve is competent. Nevertheless, relief of obstruction by cecostomy or transverse colostomy is urgent. Delay causes the same high mortality as in any other type of acute intestinal obstruction. A fair proportion of such cases has operable lesions.

Summary

1. The cardinal symptoms of carcinoma of the left side of colon are indefinite, colicky abdominal pain, change in bowel habits, blood in the stools, and loss of weight and strength.
2. Essential diagnostic aids are digital rectal examination, sigmoidoscopic examination and x-ray examination with a barium enema, in that order.
3. A series of 42 cases of carcinoma of the left side of the colon is reported.
4. Treatment is briefly discussed.

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SPECIAL ARTICLE

THE BUSINESS SIDE OF MEDICINE: TRAIN YOUR OFFICE STAFF

Vern F. Nellis, Waterloo

One of the most important factors in obtaining a smoothly running office is the proper training of your office staff, regardless of the number involved. It is impossible to measure the effect your receptionist, nurses, stenographers or laboratory technicians have upon your practice in their contact with patients. Nevertheless, the impression we have all received in entering a doctor's office, being greeted cheerfully and courteously, given prompt and intelligent attention, compared with the office assistants whose manners imply condescension, is sufficient to assure us of its importance.

The manner in which a doctor's telephone is answered is responsible to a great extent for the good will of his patients. When the call is for the doctor, an efficient secretary will determine in a courteous manner the nature of the call, and then decide whether it is sufficiently urgent to disturb the doctor, whether she may handle it, or whether she should have doctor return the call at his convenience. If the doctor is out of the office, it is her responsibility to obtain sufficient information to insure proper attention being given the request. An abrupt or disinterested voice is immediately discouraging to a caller, and it is imperative that each should be satisfied his particular case will be given every attention necessary.

There are many small but vital means of making a patient who enters a doctor's office feel important and not "just another patient." Since the majority of those calling on a doctor are ill, or uncomfortable at least, they deserve every courtesy and should not be forced to wait unattended in a reception room, with little or no knowledge of how long they may have to wait, or even

whether or not the doctor is in. Similarly, if a doctor is called out on an emergency, this should be explained to those waiting to see him, and future appointments given, if necessary.

An assistant who may greet all incoming patients and take care of those who wish merely to make a future appointment, request medicine, or make a payment on their account is important. In addition, her presence will remind the patient on his way out, of his obligation to the doctor, and she may, in a tactful manner, do much to increase the doctor's collection percentage.

There are many other callers in a doctor's office, a large number of whom are salesmen. Obviously, a good secretary or receptionist will learn the purpose of the call, and will know which salesmen the doctor wishes to see. It is then her duty to determine from the doctor when it will be possible for him to see the salesman. Similarly, she is responsible for seeing that the doctor is not bothered by solicitors or others whom he does not wish to see. Since many salesmen of reputable firms have information regarding drugs, instruments and equipment which may be of much value to the doctor, they should be given every possible courtesy and cooperation.

We suggest that you analyze the ability and functioning of your own office staff to see if improvements can be made to the benefit of all. Is your secretary relieving you of every possible detail? Are her records accurate, neat and current? Does she balance your cash daily and give receipts to all patients? Does she have the case histories on your desk before you see a patient? Is her filing system practical and efficient? How is her patient relationship? Does she handle your correspondence, calling to your attention those letters which are most urgent and sending out letters which are neat and grammatically correct? If not, ask yourself why?

Often times the responsibility for inefficiency in a job lies not solely with the employee, but to a great extent with the employer. Has your office assistant been given proper and adequate instructions from you in how you wish the work handled? Or has she been forced to struggle along, learning through experience, guessing most of the time as to your desires, and discovering that lack of system and instructions make her work confusing and almost endless? When you feel that an employee is not doing the work you require, before replacing her, try explaining her faults to her, one by one, and working with her toward their correction. In addition, see to it that she is given ample time at noon to relax, and is not overburdened with work that would rob

even the most patient and diligent employee of zest and cheerfulness.

Because the position of office assistant to a doctor offers possibilities for the development and use of ability in many lines, and because there are few opportunities to receive adequate training in this field, we have found that time spent in training of an assistant best suited to your needs is well rewarded. You will find your practice growing, your collections increasing, your whole office functioning smoothly, and your own work made easier and more pleasant.

**College of Medicine
State University of Iowa
CLINICOPATHOLOGIC
CONFERENCE
September 29, 1948**

SUMMARY OF CLINICAL RECORD

On March 12, 1947, a 23-year-old housewife entered the University Hospitals with the chief complaint of chronic diarrhea and weight loss.

Five years before admission during the patient's first pregnancy she had suddenly developed lower abdominal cramps and a profuse watery diarrhea. The diarrhea subsided somewhat but persisted throughout the pregnancy. Shortly after parturition the stools diminished to two or three soft stools per day. However, since that time she has had numerous exacerbations with ten to fifteen watery stools per day; occasionally, she noted blood and quite frequently mucus in her stools. During the remissions she had two or three soft fairly well-formed stools per day. The exacerbations seemed many times to be related to stress or strain to which the patient was exposed at the time.

Eleven days prior to her first admission to the University Hospitals the patient had a prolonged labor (56 hours) terminated by the spontaneous delivery of a stillborn infant. During her labor she ran a febrile course, with recorded oral temperatures as high as 105 F. Seven days following delivery and three days before admission she had lower abdominal cramping pain and a watery diarrhea containing blood and mucus which persisted until her admission. Her weight had fallen from 140 to 90 pounds since the onset of her illness five years before.

Physical examination disclosed an emaciated and dehydrated young woman who appeared acutely ill. The skin was warm and dry. There

was moderate tenderness to palpation over the entire abdomen, being most severe and associated with rectus muscle splinting in the left lower quadrant of the abdomen. It was necessary to perform the pelvic and rectal examinations under intravenous analgesia due to pronounced tenderness. Pelvic examination revealed an indurated mass in the lower left abdomen. On rectal examination there was increased sphincter tone and mucosal inflammation with no evidence of ulceration.

The oral temperature was 97.4 F., the pulse rate was 100, and the respirations were 24. The blood pressure was 105 mm. Hg. systolic and 60 mm. Hg. diastolic.

Examination of the blood revealed an erythrocyte count of 5,110,000 per cu. mm. with a hemoglobin of 15 gm. per 100 cc., and a leukocyte count of 17,050 per cu. mm. The urine had

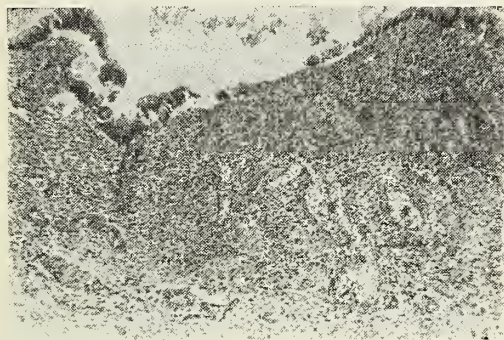


Fig. 1. Colon, showing superficial chronic ulceration.

a specific gravity of 1.010, with occasional white cells in the sediment. The total serum protein was 6.7 gm. with albumen 4.31 gm. and globulin 2.39 gm. per 100 ml. Blood chlorides were 515 mg. per 100 cc. Stools were negative for Eberthella, Salmonella, and Shigella groups on repeated examinations. Blood agglutination tests were negative for brucellosis, typhoid, and paratyphoid. Sigmoidoscopy performed several days after admission revealed an essentially normal rectum and sigmoid colon. Roentgenography following barium enema showed no evidence of a filling defect, obstruction, or shortening. The haustral markings were described as normal.

The patient steadily improved under treatment consisting of 50,000 units of penicillin given intramuscularly every three hours, plus dietary and general supportive measures. She was discharged two weeks after admission; at this time she was distinctly improved, had a good appetite, and was having a normal number of well formed stools.

After her first admission the patient returned to the hospital for observation at intervals of one to three months. She had several exacerbations characterized by numerous watery stools. One such exacerbation followed a cerebral accident to her father; another followed the illness of a sister. Between the first and last admissions (a period of 16 months) the patient weighed only about 90 pounds but she was able to continue her household duties except during the periods of profuse diarrhea when she was bedfast. Her "normal" was now about three soft stools per day.

Three weeks prior to her last admission on July 27, 1948, the patient suddenly developed a violent diarrhea after a chill. She was treated at a local hospital for continuous diarrhea, cramping abdominal pain, and vomiting. She was hospitalized until her admission to the University Hospitals.

At this time the patient was extremely dehydrated, emaciated, and did not respond to questioning. Her pulse was 110 and her blood pressure was 90/60 mm. Hg. She was having a continuous diarrhea. The abdomen was somewhat tender and there was increased intestinal peristalsis as determined by auscultation.

Examination of the blood revealed an erythrocyte count of 5,370,000 per cu. mm. and a leukocyte count of 17,750 per cu. mm. The urine had a specific gravity of 1.002 but was otherwise normal. The CO_2 combining power was 65 vol. per cent and the blood chlorides were 419 mg. per 100 cc. The serum proteins were within normal limits and the cephalin flocculation test was negative at 48 hours.

The patient was started immediately on intravenous normal saline which was followed by whole blood. Later on the day of admission the CO_2 combining power was 82 vol. per cent and the blood chlorides were 425 mg. per 100 ml. On the second day the patient was still incontinent of feces and had an emesis. There was some abdominal distension and decreased bowel sounds to auscultation at this time. The blood urea nitrogen was now 16 mg. per 100 cc., the CO_2 combining power was 66 vol. per cent, and the blood chlorides were 515 mg. per 100 ml. A Levine tube was passed into the stomach and Wangenstein suction started. The treatment started at admission was continued—i. e. intravenous streptomycin and penicillin, intravenous saline and blood, nothing by mouth, and general supportive measures.

The patient's course was progressively down

hill except for transient improvement shortly after admission. On the fourth hospital day the patient's fluid intake was 6,600 cc. and the urinary output was 4,200 cc. On the fifth hospital day the patient was more listless, the abdomen more tympanitic, and she spiked a fever to 104.4 F. rectally. The CO₂ combining power was 90 vol. per cent. A portable chest roentgenogram taken at this time was normal. The patient was given 30 gm. of ammonium chloride in 3,000 cc. of normal saline intravenously; she was also given amigen in 5 per cent dextrose and Ringer's solution. Early on the sixth day the patient expired. The fluids given during the last 24 hours totaled 7,900 cc.

Clinical Diagnosis

Ulcerative colitis.

Necropsy Findings

The pertinent anatomic findings in this case were centered about the gastro-intestinal tract, particularly the large bowel. The cecum was greatly distended with gas, the remaining colon only moderately so. The distal ascending, transverse and sigmoid colons were boggy and hyperemic. There were numerous foci of superficial ulceration with several deep serpiginous crypts throughout this entire segment of large bowel. The ulcers were of the chronic type, the inflammatory response consisting principally of plasma cells, lymphocytes and granulation tissue. Scarring was not conspicuous nor did the ulcers penetrate the muscularis. Segments of colon between ulcerations revealed rather severe subacute to chronic cellulitis. The proximal and distal one-third of the small bowel respectively were beefy red and boggy. The valvulae conniventes were edematous and decidedly hyperemic, but no ulceration could be seen. The intermediate segment of the small bowel appeared virtually normal. About 200 cc. of clear yellowish fluid was present in the peritoneal cavity. Congestion of the viscera, particularly the spleen, was noteworthy.

Foci of acute ulceration were present in the esophagus. The inflammatory process was superficial and it was attributed to the presence of the Wangenstein tube.

The left lung weighed 650 gm. It presented a violaceous voluminous appearance. It was diffusely consolidated except for the apex. Microscopic sections confirmed the gross impression of diffuse confluent bronchopneumonia. About 100 cc. of cloudy yellow fluid was present in the left pleural cavity. The right lung was virtually normal.

The kidneys were enlarged and somewhat flabby.

Each weighed 250 gm. Histologically, there was a mild but definite lower nephron nephrosis.

A mural thrombus of the right ventricle of the heart and thrombosis of the superior sagittal sinus were found. These antemortem clots were of recent duration, at most, only a few hours. Other incidental findings included a 3 mm. cholangioma on the superior surface of the right lobe of the liver. Multiple small granulosa cell cysts of the ovaries were present. The uterus was small, and the endometrium was of the atrophic senile type. The breasts were small, and histologically, atrophy of the parenchymatous elements was apparent—all of these findings consistent with rather marked depression of estrogenic activity.

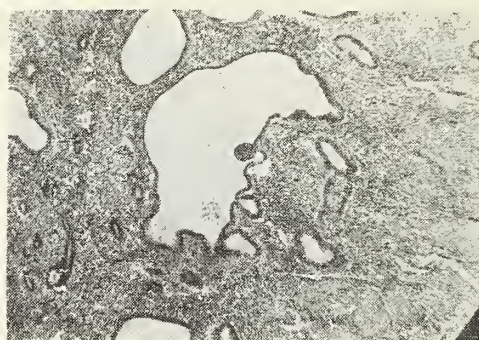


Fig. 2. Endometrium, showing senile type of atrophy.

The immediate cause of death was confluent bronchopneumonia. The toxemia and possible electrolyte disturbances, secondary to the chronic ulcerative colitis, were considered to be contributory factors.

Culture of the heart blood and peritoneal fluid were negative for significant organisms.

Necropsy Diagnosis

Chronic nonspecific ulcerative colitis.
Congestion of viscera.
Diffuse confluent bronchopneumonia, left lung.
Lower nephron nephrosis, mild.
Cholangioma of liver.
Multiple granulosa cell cysts of ovaries.
Atrophy of internal genitalia and breasts.
Mural thrombus, right ventricle of heart.
Thrombosis of superior sagittal sinus, recent.
Multiple superficial ulcers of esophagus.

Dr. Nathan Womack (Surgery): The diagnosis of this patient's lesion is not a difficult one. She was a young girl who for five years had intermittent exacerbations of fever and diarrhea with blood and mucus in the stool. These attacks were associated with periods of emotional strain, as evidenced by the fact that they occurred dur-

ing pregnancy, following a hard labor, and during family altercations. Before the demonstration of the pathologic findings, therefore, I think we can go on the assumption that we are dealing with a patient who had chronic ulcerative colitis.

From the protocol, it can be seen that at the time of her last admission she was seriously ill. She had a high degree of hemoconcentration and beginning circulatory failure as evidenced by an increase in pulse rate and a lowering of her systolic blood pressure. She was in mild alkalosis insofar as her CO_2 combining power was concerned. I think the most significant finding was the extremely low blood chloride level of 419 mg. per 100 cc.

In interpreting this low blood chloride level, it is well to remember that when there is considerable water loss as the result of diarrhea, there is concomitant loss of sodium chloride from the body. In the normal individual there is considerable reabsorption of sodium chloride in the terminal ileum, the cecum, and ascending colon. In a patient with chronic ulcerative colitis in an active form, this absorption mechanism is often interfered with to such a great degree that sodium chloride insufficiency develops. We, therefore, might with good reason criticize the therapeutic procedure used here upon her admission of the insertion of an indwelling catheter into her stomach with constant suction of the gastric contents. In a patient whose electrolyte metabolism is already decompensated, the withdrawal of chlorides from the stomach can often be most injurious.

The day before this patient died her urinary output was 4,200 cc. This is a significant observation for in its interpretation a therapeutic approach becomes obvious. In most patients with a severe alkalosis there generally is a lower nephron nephrosis such as there is in shock or in the reaction to poorly matched blood or severe trauma. The result generally is a shunt of blood flow from the cortical glomerular apparatus to the juxtamedullary pathways with resulting oliguria if the damage happens to be severe. Here the alkalosis was not so great at first and instead of a slight amount of urine secretion there was a huge amount. One might bring into play a lowered function of the neurohypophysis in the explanation of this phenomenon. We do not have enough data here to affirm or exclude such a conception. A much more likely explanation of this huge urinary output, it would seem to me, lies in the lowered sodium chloride content of this patient's tissues. It would seem to me most likely that this patient did not have enough salt

in her body to bind the water she was receiving and, as a result, it was eliminated. One, therefore, can criticize the administration of such huge amounts of fluid if they cannot be retained, for not only will the administration of such fluids do no good but it may do serious harm.

I think we can assume, therefore, that this patient did not die from her ulcerative colitis *per se*, but the most important immediate cause of death was water imbalance.* If one estimates the total deficiency of sodium chloride, it can be easily seen that it could not have been corrected here by the administration of sodium chloride in isotonic solution. In a situation as critical as this, it often is necessary to administer the sodium chloride in a concentration as high as 3 per cent in order to correct the deficiency and allow the binding of water. I wish I could say that such a procedure is innocuous. It is not. I have had one fatality from it due to generalized capillary damage throughout the body; and yet at the present time it probably is the most valuable weapon we have at our disposal. Another therapeutic procedure which is of great value in this situation is to utilize one of the normal hemostatic mechanisms which the body has to preserve salt, namely the adrenal cortex hormones. It has been my good fortune in several instances of this type to find that when adrenal cortical hormone is given early enough and in sufficiently large doses, sufficient sodium will be retained in the body to alter the clinical picture. In support of this therapeutic procedure, I think that you will often find that patients dying with this symptom complex will show evidence of adrenocortical damage at autopsy, usually as atrophy or cloudy swelling. Such findings generally are interpreted as the result of exhaustion from overwork.

I, therefore, should like to prognosticate the pathologic findings here in this patient. There will be evidence of adrenal cortical atrophy. There will be a residue of the local findings of ulcerative colitis, either in the colon, if any has been left behind, or in all probability in some remnants of the small intestine. Since this patient died in circulatory failure, there also will be edema of the lungs with some residue of infection giving the microscopic picture of bronchopneumonia.

Dr. C. Gillies (Radiology): This patient was not x-rayed at the time of her last admission in July but was seen at the previous admission which was in March. This film, a barium enema, shows the colon fairly well filled and of essentially normal appearance. There is no shortening or

narrowing and no appreciable lack of haustral markings of the colon. The second film is the post-evacuation film and demonstrates changes. There is a definite abnormality of the mucous membrane pattern characterized by loss of normal markings and roughening of the mucosal surface. Our diagnosis was ulcerative colitis.

Dr. W. Paul (Medicine): I think the term ulcerative colitis is a misnomer. Whenever ulcerative colitis is suspected or thought of, one usually thinks of ulcerations throughout the bowel. If either small or large ulcerations are not seen, then the diagnosis is either questioned or not made. This patient was sigmoidoscoped, and because ulcerations were not noted the bowel was said to be normal. During her second admission she was sigmoidoscoped again and a definite diagnosis of advanced ulcerative colitis was made. We were unable to determine whether the lesion was of benign type or whether it was of the rapidly progressive type (the kind I usually classify as the malignant form). We found a normal sized lumen, no shortening of the long axis, soft, pliable walls and normal haustral markings. The mucosa was hyperemic, slightly edematous but otherwise normal. From the anus to the sigmoid fine granulations were noted in the mucosa, the typical finding of an idiopathic ulcerative colitis. Blood would ooze from the mucosa whenever pressure was exerted with the forceps or a pledget of cotton against the granular areas. The areas of fine granulations are the most typical and usually the only finding in this condition.

Recently we saw a woman who had a diagnosis of ulcerative colitis made about 18 years ago and at that time an ileostomy was performed. Since then she has had normal bowel movements and repeated roentgen examinations have been entirely normal. Although there was some doubt as to the original diagnosis, we found two small areas of granular mucosa which bled freely when touched with a forceps. Besides the areas of granulation we may also find small submucosal hemorrhages and adhered mucus. In attempting to wipe the mucus off the surface, bleeding may ensue reminding one of a diphtheritic membrane. As a rule, that is all that is found in the so-called benign form. We again examined this woman during the third admission, and at this time the hyperemia and edema were more pronounced. The diameter of the lumen appeared shorter and there was some shortening of the long axis. Clinically she had improved a great deal, but the changes in the bowel had progressed.

During the past week I met her local physician who furnished me with a more complete story of her final illness.

Dr. Carter (Pathology): The pertinent pathologic findings are in accord with the clinical impression. There was a relatively mild chronic nonspecific ulcerative colitis. It involved the entire colon but particularly the rectum. There were superficial ulcers of the mucosal surface, and the wall was hyperemic and very edematous. Interestingly enough, the proximal and distal thirds of the small bowel, respectively, were also involved in the inflammatory process. Although the small bowel did not show any ulcerations, there was marked edema and congestion of the entire wall. In the large bowel there were numerous serpiginous crypts, but no deep ulcerations were found. The muscularis was not involved and there was no evidence of perforation; the ulcerations were everywhere superficial. One of the striking observations was the marked distention of the gut, particularly the large bowel and the cecum.

Dr. W. Paul (Medicine): The patient had little difficulty until her husband was inducted into the army. She followed him to California and while there they quarreled continuously. She became pregnant, even though she did not want a child, probably to satisfy her husband. After delivery the symptoms of ulcerative colitis started. From then on the symptoms were always associated with mental upsets or family quarrels. Her recent illness started shortly before July 4 of this year. Her mother made plans for a family reunion to be held July 4. The patient concurred with the idea but objected to some of the people her mother invited. This precipitated a family squabble and within a few days the patient had to be hospitalized for vomiting, severe diarrhea and dehydration. She was given intravenous fluids, plasma and cortico-adrenal extracts. It was noted that if a large volume of fluids were administered, both the vomiting and diarrhea became more marked. Within a few days the symptoms subsided and she returned home. Arrangements were made for her sisters to take turns watching the patient during the family reunion. She argued with her sisters, insisting that they and her mother had invited the people whom she disliked. Her symptoms recurred, necessitating hospitalization again. She once more responded to small amounts of intravenous fluids and adrenocortical extract. She was hospitalized two or three times because of severe diarrhea, each episode resulting from a family quarrel. Her physician did not see her again until one morning when he was called and found the patient moribund. He arranged to have her admitted as an emergency to the University Hospitals.

The question arises as to what occurred shortly before the last illness. We know that she was vomiting, losing hydrochloric acid, and because of the diarrhea she must have lost considerable amounts of electrolytes. For this reason she developed alkalosis. The usual symptoms of alkalosis are nervousness, increased irritability and vomiting. If the alkalosis persists, many of the patients soon develop a psychosis. Unfortunately the relationship between the mental changes and the disturbed chemistry is not recognized, and treatment is directed toward the psychosis rather than the alkalosis. This woman probably had an alkalosis for some time which resulted in more vomiting and loss of electrolytes. With the development of alkalosis there occurs retention of nonprotein nitrogen and creatinine. Why this occurs, I do not know. During alkalosis the plasma chloride level is low, while the sodium level may be elevated if the patient has taken soluble antacids, or it may be low if the vomiting has been excessive. The treatment has been to discontinue ingestion of soda or Wangensteen suction. To replenish the chloride loss, we gave 200 to 300 cc. of 2 per cent sodium chloride solution intravenously followed by normal saline, giving a total of 2,500 to 3,000 cc. of fluids daily. To reduce the secretion of hydrochloric acid, we introduced 200 cc. of 0.1 N HCl into the stomach. We found that the introduction of HCl into the stomach of man inhibited the formation of acid. With this procedure the blood urea nitrogen and creatinine would return to normal. In a few individuals the creatinine would remain about 2 to 3 mg. per cent. In these, glucose was substituted for normal saline and within a few days the urea nitrogen and creatinine values returned to normal. This patient lost not only chlorides but sodium and, therefore, could not retain fluids. Ordinarily we expect to find either an oliguria or anuria during alkalosis, but this woman had a polyuria. I agree with Dr. Womack that in this case less fluids should have been used and an attempt made to give her sodium, as sodium chloride.

The other interesting aspect in this case was the relationship between the psychic or mental trauma and the somatic complaints. In reviewing her history, we find that the episodes of diarrhea and vomiting were practically always initiated by some mental conflict.

In reviewing the literature, we find that much attention has been given to the type of individual who develops ulcerative colitis. The patients are intelligent, not original thinkers, but higher than average in their capacity. As a rule they are

hyperneat, superorderly, approaching meticulousness in action, dress, speech and thought. They may be hypersensitive, being easily offended as to person, property and dignity. They may be egocentric, having a tight, close small circle of personal relationships with no deep feeling of political or humanitarian ideals. They have a marked lack of aggressiveness in social, emotional, marital or other fields. They complain but do not fight. There is a deep parental attachment usually toward the mother figure, and this may be one of the common traumatic precipitatory episodes. Fear of father is seen more often in male patients. The precipitating factors of mental trauma are usually marital friction, humiliation or shame (either marital or social), and disappointment in the response and emotional reaction of the parent or marital partner.

I would like to ask Dr. Womack to discuss when these patients should be treated surgically.

Dr. W. Miller (Psychiatrist): The position of a psychiatrist at this meeting is somewhat like a Quaker at the meeting of the war lords. The Quaker doesn't believe in war anyhow but nobody is interested in that fact once the trouble has started. The dead patient isn't of much interest to the psychiatrist at this point. Dr. Paul has emphasized several times the factor of the emotional reactions in this patient as the etiology in the disease. That of course is where our primary interest has to be. We saw this patient on two occasions, the first time three days before she was discharged from the hospital at the time of the first admission. We saw her the second time three days before she died, and as much as we were flattered by the referral at that time, we felt it a little bit beyond our powers to contribute very much to the therapy. Both the family physician and the medical department had recognized and do recognize the tremendous importance of personality factors in the etiology of colitis, and other intestinal disturbances, as well as in other systems. The imposing list of personality characteristics that was read to us by Dr. Paul certainly contained many elements of truth, but I would hesitate to feel that we could classify these patients quite as definitely as that because we see other patients that fit into that category that show other types of psychosomatic disturbances. Perhaps Dr. Paul didn't intend that it should be specific for ulcerative colitis. It is a common type of personality make-up and the patients tend to keep tensions within themselves, and do not find other modes of expression.

It was interesting that on the brief history

that was secured on the one interview by the psychiatrist who saw the patient, this patient did identify herself, or we might say, was very much attached to the father and in some measure resented very much her feminine role. The onset of her symptoms coincided with the hostility reactions as pointed out by Dr. Paul and the family physician. It also occurred with her first pregnancy which she did not want, and the added information was that it occurred at the time when there was a good deal of quarreling between the husband and wife. Another exacerbation occurred with the second pregnancy, at which time the child died, and she told the psychiatrist that "babies are always like a parasite—they sap you." The second pregnancy was planned, but the baby died after a few hours, and it caused another exacerbation. With the living child she had dreams about the child dying; she was extremely anxious when he ran away from home or was out of sight when playing; she tended to overprotect the child; she was extremely anxious about his welfare—all types of behavior that fit very well with this overtense, meticulous sort of person. Many times we feel that these symptoms point to the fact that there is a veiled type of hostility toward the child, that the person is unable to recognize the fact the child is unwanted, so they compensate by overprotectiveness, overcarefulness and constant worry about his safety. Whether the patient comes by that kind of temperamental diathesis by some magic of the process of inheritance through the genes or whether it is acquired through constant exposure and treatment as a child, it is very difficult to say. I think that the point is well recognized and accepted by most of us that there must be a very direct association between the personality reactions and the subsequent and following systemic reactions and that this is a form of generalized reaction of the organism to a personality state.

Dr. Carter (Pathology): It is frequently overlooked, but a definitely known fact, that the ulcerations of ulcerative colitis when they do occur in the colon or in the rectum, are located on the mucosal surface above the taenial bands. They rarely are seen between the bands. The musculature of the large gut, which by all means exerts the greatest force in the vicinity of the taenial bands, undoubtedly is related to the ulcerations that do form, possibly by the mechanism of ischemic infarction. Thus the ulcerations may, to some extent at least, be correlated with the psychiatric and emotional elements in ulcerative colitis.

Dr. Womack (Surgery): In answer to the question put to me by Dr. Paul, I might begin by stating that recently observations have been made which are of interest to the psychosomatists. In patients with ulcerative colitis, if the rectal mucosa is examined with a sigmoidoscope and the patient made angry or happy or made to experience any extreme emotion, one can see in the mucosa of the rectum almost the identical changes which were observed in the gastric mucosa in the well known study of Wolfe in those patients prone to peptic ulcer. There apparently is some organic confirmation of the remarks which we have just heard made by Dr. Miller and Dr. Paul.

Often these patients are psychic cripples in many respects, regardless of whether or not the emotional deformity is a causal agent. A permanent ileostomy, even in a normal individual, is a tragic occurrence. When a permanent ileostomy, therefore, is placed in a young girl, and many of these people are young girls, who already is psychically disturbed, I cannot help but feel that it is an operation to be done only after all else is given up. It, therefore, is not an operation of election but an operation of dire necessity.

Dr. D. Sweeney (Neurosurgery): It has been expressed several times this afternoon that exacerbations of the symptoms of ulcerative colitis quite often follow various emotional disturbances, and the psychiatrists admit they have not the time to treat all of the cases which require their science. As a consequence, I would like to propose bilateral prefrontal lobotomy as a surgical procedure for alleviation of this distressing disease. I would like to have Dr. Meyers and Dr. Miller discuss this proposal.

Dr. R. Meyers (Neurosurgery): In my opinion, Dr. Sweeney's suggestion is a justifiable one for those cases of ulcerative colitis which are conceded to be beyond the pale of psychiatric rehabilitation. I take it that a number of cases of ulcerative colitis which we have seen here at the University Hospitals have been so regarded by the psychiatric service. Considering the grave outcome with which the patient suffering from ulcerative colitis is often faced, whether he lives with his disease or whether he gradually succumbs to its irreversible bodily changes, I think that the procedure of prefrontal lobotomy, of which we have spoken before in this connection, might be warranted in selected cases. Only if and when it is generally agreed that conservative therapy has proved ineffectual, or is likely so to prove, does psychosurgery appear to be

warranted. As elsewhere, it is to be regarded as a measure of desperation.

There is one other comment I would like to make before Dr. Miller expresses his opinion on this matter. What Drs. Paul and Miller have represented to you in connection with the etiology of ulcerative colitis should not be mistaken for anything but a useful hypothesis of the etiology of the disorder in 1948. The history of medicine is replete with instances in which the etiology of a disorder has at one time or another been asserted with confidence to be A, B, C, and so on. Within the past quarter century, it has evidently become a fashionable thing in disorders which have baffled us to talk nebulously about their origin in "psychologic aberrations." It is, of course, quite acceptable to speak thus about them as long as we do not represent their etiology in connection with the verb "is." "Is" implies certainty, and a verb with such unequivocal meaning should not be loosely used in connection with postulations. If we are to avoid unnecessary clinical pitfalls, it is necessary that the hypothetical nature of our accounts be clearly asserted as such.

Parkinsonism, for example, and postencephalic tics, myoclonus, the choreas, dystonias and athetoses—conditions that represent disturbances of the ancient motor and vegetative mechanisms of the brain, that is, the rhinencephalon, diencephalon and anterior mesencephalon, and which within a few decades have been put on a sound organic basis—were at one time in the history of neurology and psychology asserted to be of "psychogenic origin." However "organic" these diseases may now be regarded, our present understanding of them makes it clearly evident that they are in no sense independent of activities that go on in the telencephalic hierarchy. They are certainly highly modifiable by conditioned emotional responses. We are well familiar with the fact that emotional disturbances commonly precipitate and make more clinically apparent the manifestations of parkinsonism and those other hyperkinetic disorders of which we have been speaking.

The important point is this. The mere fact that psychologic events may on occasion render a clinically latent disorder a *manifest* affair in no sense establishes that the underlying cause of the disorder is a "psychologic" one.

Time does not permit a serious inquiry into Dr. Paul's imposing list of character traits as related to ulcerative colitis. "Trait psychology" became seriously suspected by students of personality in the 1890's, and during the 1920's its conspicuous defects were disclosed by the Allports and others. One cannot with justification speak

of a person as "perfectionist," "conscientious," "honest," "neat," etc. He may be thus in *some situations*, but he is rarely, if ever, consistently so. There is, therefore, a real risk in asserting him to be possessed of thus-and-such a trait unless we catalog the situations in which he behaves or does not behave in accord with the pattern under study.

One need in psychiatric research is a careful systematic investigation of a great host of individuals from the "normal" population, with the idea of identifying the traits and combinations thereof of which we have heard something this afternoon. As far as I am aware, no such study has been made. To what extent the individuals in this room today—none of whom, it is conceivable, may be suffering from ulcerative colitis—might turn out to have the same sorts of traits as those codified for us by Dr. Paul, I do not know; and neither does anyone else. Until such controlled studies which meet the rigorous requirements of scientific method have been made, I think we ought not to use the word "is" in connection with the psychogenic etiology of ulcerative colitis, thyrotoxicosis, peptic ulcer, essential hypertension, Raynaud's disease, and a number of other clinical phenomena which have defied precise identification up to the present.

IOWA CHAPTER OF AMERICAN HEART ASSOCIATION

The Iowa Chapter of the American Heart Association was formed Oct. 9, 1948, at the Iowa Regional meeting of the American College of Physicians held at the Des Moines Club, Des Moines. Herbert W. Rathe, M.D., of Waverly was named chairman of a committee which will be appointed to draw up a constitutions and bylaws.

Speakers on the scientific program for the regional meeting of the American College of Physicians were Forest H. Coulson, M.D., Burlington; Paul W. Berney, M.D., Cedar Rapids; Leslie W. Swanson, M.D., Mason City; Lawrence J. Halpin, M.D., Cedar Rapids; Henry Hamilton, M.D., Iowa City; Arthur G. Lueck, M.D., Des Moines; Leon J. Galinsky, M.D., Des Moines; P. G. Keil, M.D., Des Moines; Charles F. Lowry, M.D., Council Bluffs; and William B. Bean, M.D., Iowa City.

Members of the Iowa Clinical Medical Society met with the group.

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STATE DEPARTMENT OF HEALTH



CANCER OF THE LUNG VS. TUBERCULOSIS

Cancer of the respiratory system accounts for only a small part of the total deaths from cancer, less than 7 per cent. However, as compared with some of the respiratory infections it looms rather large as a cause of death.

During 1947, for example, there were in Iowa 294 deaths from tuberculosis in all forms and 258 deaths from pulmonary tuberculosis. During the same period we experienced 242 deaths from cancer of the respiratory system, including the larynx, trachea, bronchi, lungs, pleura and mediastinum and 141 deaths from cancer of the lung itself. Thus it will be seen that cancer of the respiratory tract caused 82 per cent as many deaths as tuberculosis and that cancer of the lung itself kills more than half (54 per cent) as many people as pulmonary tuberculosis.

This is not everywhere true. Iowa is fortunate, thanks largely to the efforts of the Division of Tuberculosis and the widespread popular interest in tuberculosis control over many years in having one of the lowest death rates from tuberculosis. Cancer of the lung on the other hand is everywhere increasing. Some of the increase may be only apparent because of the discovery of many early cases which would have been formerly missed through the mass x-ray program used by the Division of Tuberculosis in its case finding. But a real increase in cancer of the lung is demonstrated by autopsy reports throughout the world. In Iowa cases of suspected tumors of the respiratory tract discovered in routine x-ray examinations are referred to the Division of Cancer Control for follow-up.

While the influence of the inhalation of certain irritants in industry, and especially in the mining of radioactive materials upon the etiology, has been long recognized, the reason for the increased frequency of pulmonary carcinoma is not yet known. Many theories have been advanced, all of which still require further proof. Males are affected about five times as frequently as females, lending strength to the theory that some industrial hazard may be involved.

NEW DRINKING WATER STANDARDS FOR PUBLIC SUPPLIES ADOPTED BY STATE BOARD OF HEALTH

The 1946 U. S. Public Health Service Drinking Water Standards, which are mandatory for water used on common carriers engaged in interstate commerce and which are approved by the American Water Works Association for all public water supplies, were adopted by the State Board of Health in a regular meeting on July 13, 1948. These standards, superseding those heretofore in force, became effective on a state-wide basis on Sept. 1, 1948. Greater emphasis has been placed on the quality of the supply as it reaches the consumer. Such hazards as introduced by cross-connections, defective plumbing, work on new and repaired mains and open reservoirs, have been recognized and a sampling program set up which, if properly maintained, will lead to maximum safety in the operation of the supply.

The number of samples to be examined each month is fixed on the basis of the population served and the type of treatment, whereas the selection of sampling points is left to the judgment of the collector. Most of the factors involved in organizing a suitable sampling program depend to a large extent on the size of the system and the topography of the area served. For small systems, random samples at convenient locations are usually sufficient. Systems serving relatively level areas also may be handled in this manner. Large systems and systems operating on more than one pressure should be zoned and the sampling collection schedule organized to cover the entire system at least once a month. If two or more sources of supply are used, zones should be arranged to enclose areas served by each source.

It should be emphasized that sampling for routine purposes is largely a matter of common sense. Suggestions are useful, but all such programs should be undertaken only after careful consideration has been given to all parts of the water supply system.

POLIOMYELITIS

The Communicable Disease Summary of the Public Health Service for the week ended October 9, 1948, notes:

"A decrease of 321 cases of poliomyelitis was reported during the current week as compared with the preceding week, the sharpest weekly decline this year. A total of 1,208 cases was reported for the current week, as compared with 1,529 for last week, 1,142 in 1946 and a five year median of 639 for the corresponding week. The current week's figure brings the total to date to 20,387, as compared with 19,644 in 1946 and a five year median of 10,296 for the corresponding period. The total for the entire year 1946 was 25,698.

"The following listed states have reported more than 1,000 cases to date: California, 3,512; North Carolina, 2,293; Texas, 1,520; New York, 1,145. For the corresponding period of 1946, the following named states had reported more than 1,000 cases: Minnesota, 2,527; Illinois, 1,921; California, 1,743; and New York, 1,025."

It appears that Iowa's peak week was reached during the week ended October 2 when 94 cases were reported to the state health department. The number dropped to 84 for the week of October 9 and will be still lower for the week ending October 16. Because of larger numbers of nonparalytic cases being counted in our totals it will be some time before we can give proper comparison between the current epidemic and the record year of 1940 when 929 cases were reported. Since 834 cases were reported to Octo-

ber 9 of this year and 765 for the same period in 1940, it does appear that our total reporting this year will exceed that of 1940.

SMALLPOX

For the second consecutive week no smallpox has been reported from any state in the United States. Reduction in smallpox cases has been marked in recent years.

Iowa is hoping to state a unique type of celebration soon — its first year without smallpox. There is fair hope of achieving this record as the nine months of the year which have passed include the season, late winter and early spring, when smallpox cases are most frequent. However, if Iowa is to enter the increasingly large group of states without smallpox and remain among them, vaccination and revaccinations must be continued. We still have many communities with such small percentages immunized that if smallpox were introduced it could rapidly assume epidemic proportions.

Iowa's present smallpox immunization program is largely one of vaccinating during infancy and revaccinating during the early school years. Many adults, however, have not passed through this program and are unprotected either because they have never been vaccinated or because their one vaccination was given so long ago that its protection has been dissipated.

For good smallpox protection our program must reach those adults who have not had their second smallpox vaccination.

MORBIDITY REPORT

DISEASE	Sept. '48	Aug. '48	Sept. '47	Most Cases Reported from These Counties:
Diphtheria	4	2	7	Cerro Gordo, Dallas, Scott, Webster
Typhoid Fever	0	0	5	
Scarlet Fever	15	17	13	Polk, Dubuque, Muscatine
Smallpox	0	0	0	
Measles	8	23	22	Scattered
Whooping Cough	26	22	68	Dubuque, Calhoun, Linn, Warren
Brucellosis	43	50	101	Black Hawk, Webster, scattered
Chickenpox	10	24	4	Dubuque, scattered
German Measles	1	4	1	Mitchell
Influenza	0	0	0	
Malaria	1	1	3	Polk
Meningitis Meng.	1	4	3	Lee
Mumps	44	61	8	Black Hawk, Dubuque, Boone, Clinton
Pneumonia	1	3	2	Black Hawk
Poliomyelitis	329	163	39	Crawford, Emmet, Polk, Pottawattamie
Tuberculosis	67	62	56	For the State
Gonorrhea	111	109	143	For the State
Syphilis	123	83	189	For the State

The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

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No. 11

Oscar Ewing—Federal Security Administrator

Although the National Health Assembly, called together by Mr. Oscar Ewing, Federal Security Administrator, last April, was expected by many persons to produce little constructive and much in the way of explosive dissension, the outcome was much more favorable. The section on medical care was most active, consisting of over one-fourth of the delegates. Two hundred and eight delegates were listed, 18 of them practicing physicians. The planning committee, consisting of two representatives of the American Medical Association (Dr. T. U. McGoldrick of Brooklyn and Dr. J. R. McVay of Kansas City), laymen from the C.I.O., A. F. of L., cooperative health groups, Dr. Louis Wright of Harlem, Dr. Ernest Boas of New York, Dr. Rufus Rorem of Philadelphia, and Dr. Hugh Leavell of Boston, reached a unanimous decision in its report. All agreed . . . "that the principle of contributory health insurance should be the basic method of financing medical care for the large majority of the American people and furthermore that 'health insurance should be accompanied by such use of tax resources as may be necessary to provide services not available under prepayment or insurance.'"

All of the recommendations from the National Health Assembly were put at the command of Mr. Ewing, but there was no compulsion upon him to follow them. That he did not is evidenced by his report to Mr. Truman in which he said, "The people who need health insurance most will not be able to get it under voluntary plans. I am forced to the conclusion that the

voluntary insurance plans can never do the job that the national interest requires to be done."

He blasted voluntary plans, Blue Cross, Blue Shield, and commercial insurance, because:

1. "They offer benefits that are inadequate when measured against the standard of providing individuals with the kind and amount of care they need to promote the best health.

2. "Because benefits must be matched with flat-rate premiums. . . . The battle to balance premiums with outgo has the further effect—necessary to insurance companies—that voluntary plans must seek to avoid enrolling 'bad risks' such as people over a specified age or those not gainfully employed.

3. "They cover only a fraction of the population and, on the flat-rate basis of voluntary plans, they probably will never be able to cover more than half the total population."

His proposal is for a greatly augmented program of medical education and research, hospital construction, hospital maintenance, and community health protection. Financially, it would mean doubling present governmental expenditures—federal, state and local—for civilian health by 1960 and an annual outlay of upwards of ten billion dollars for compulsory social security medicine for the entire population.

It is his report which provided the basis for Mr. Truman's call for a national health program on a compulsory basis, disregarding the findings of those whom he called in for counsel, ignoring the wide area of agreement reached at the National Health Assembly on voluntary plans, and stressing only a procedure which has proved to provide an inferior medical service at a greatly increased cost in every country which has tried it.

General Practitioner's Award

At the Cleveland interim session of the American Medical Association last January, the House of Delegates honored Dr. A. C. Sudan of Kremmling, Colorado, as the outstanding general practitioner of the year. This was the first time such an award was made, and there was some confusion about procedure and selection.

The award, however, met with wide acclaim throughout the country and brought to the attention of the public the importance of preserving the American way of life, including the continuance of the practice of medicine as a private enterprise. As a result it was voted that such an award should be made annually at the interim session. Definite procedures were outlined as follows:

1. Each county medical society shall be urged to name the candidate of its choice as the outstanding general practitioner for the year within its jurisdiction, basing its selection on nominations and recommendations from any responsible source, lay or profession.

2. The name of each candidate so chosen by a county medical society, with all pertinent data, including recommendations of lay groups and individuals, shall be submitted by the county medical society to the state medical society of which it is a component part.

3. Each state medical society, through whatever agency each may designate, shall select from among the candidates submitted by its component medical societies, one name to be declared the outstanding general practitioner within the state.

4. The candidate so selected at the state level shall be the sole candidate from that state, and his or her name, with all pertinent supporting data, shall be submitted to the Board of Trustees of the American Medical Association.

5. The Board of Trustees shall select from the names submitted by state societies the names of three persons, these names to be submitted in turn to the House of Delegates which shall select one name to be declared the outstanding general practitioner of the United States for the year.

6. Any state medical society desiring to do so may establish and confer a suitable award with fitting public ceremony on the physician it has named as the outstanding general practitioner of that state for the year.

It will be impossible for Iowa to submit any name for the award to be made at the St. Louis session in December, but each county medical society is urged to keep the honor in mind at its annual meeting and if it has a general practitioner it wishes to honor, it should submit his or her name to the House of Delegates in April along with full information and recommendations from various organizations in the county. Our House of Delegates may then act upon the nominations in April, 1949, select the one it deems most worthy, and submit that name to the American Medical Association for consideration at the 1949 interim session.

This General Practitioner's Award offers an unexcelled opportunity for the county medical society and the community to honor an outstanding physician. To be selected by his colleagues and fellow citizens as one deserving the award is a privilege and recognition accorded to few people, and it would be most heart warming to the individual. We hope each county will take cognizance of the possibilities in the award and

will nominate one of its members if it feels him worthy.

Interim Session of the American Medical Association

The second Interim Session of the American Medical Association will be held in St. Louis Nov. 30 through Dec. 3, 1948. Deviating from the usual procedure of holding the Annual Conference of Secretaries and Editors at A. M. A. headquarters in Chicago, this year's meeting will be held in St. Louis on Sunday and Monday, November 28 and 29.

A new feature of this interim session is the scheduling of the first national Medical Public Relations Conference under sponsorship of the A. M. A. A full day's program will be presented on November 27. The theme for this conference is "Shooting at Common Targets in Medical Public Relations," with Lawrence W. Rember, director of the A. M. A. public relations department and executive assistant to the secretary and general manager, directing the program.

Because of an apparent lack of uniformity in the prevailing ideas concerning medical public relations during the past few years, workers in this field feel that such a meeting, at which they will be given the opportunity to discuss mutual problems and policies, will be of much value. The Iowa State Medical Society now having a public relations counsel will be represented at this conference.

Those who have attended recent sessions of the A. M. A. House of Delegates realize the importance of a midyear session. This was clearly demonstrated at the session in Cleveland last January when the House had two full days of deliberation on many important subjects. Two full days are again assigned this year.

A report of this meeting will appear in the January issue of the JOURNAL.

Transcervical Fracture of the Hip

In reviewing his method of semi-delayed bone graft in the treatment of fresh transcervical fractures of the hip, Dr. Arch F. O'Donoghue presented 72 consecutive case reports before the American Academy of Orthopedic Surgeons at the 1946 meeting. This report summarized the tremendous strides during the past 50 years in the treatment of this condition.

In 1822 Sir Astley Cooper stated, "In examinations which I have made of transverse fractures of the cervix femoris within the capsular liga-

ment I have only met with one in which bony union has taken place. It is of no use to sacrifice the patient's last remnant of health and strength and run the risk of producing a slough of the nates by a long confinement in bed in the hopes of procuring union by bone." In 1901 Nicholas Senn questioned 50 prominent surgeons, "Does bony union ever occur in intracapsular fractures of the neck of the femur?" Of the 50 replies, 27 were "No," 18 were "Yes, very occasionally," and 5 were "Do not know." In 1929 a report was made to the American Orthopedic Academy regarding the results following the Whitman method for treatment. Mortality in the first year was 23.7 per cent while bony union in survivors in the first year was 35.8 per cent. Compare these findings with the 1941 report before the American Orthopedic Academy regarding internal fixation treatment for subcapital fractures of the hip: 8.5 per cent mortality in first year; 70.1 per cent bony union in survivors in first year.

In treating 72 consecutive fractures of this type with no selection of cases, O'Donoghue reported only 4 per cent deaths from all causes. Nonunion in survivors accounted for only 6 per cent or 4 patients. It was felt that the cause for nonunion in well fixed subcapital fractures rests upon a physiologic vascular rather than a mechanical basis.

Certainly Dr. O'Donoghue is to be congratulated for such excellent results which represent the marked progress which has taken place in the treatment of a serious fracture. His series now numbers well over 100 cases with continued excellent end results. With the approach of icy weather in Iowa it is appropriate to emphasize that proper internal fixation of these fractures can accomplish union in a large majority of patients treated by this method.

Medicine in Sweden

With socialized medicine now in the limelight as a major political issue, attention is being directed to the success or failure of similar programs in foreign countries, particularly England and New Zealand. It was recently the privilege of the editorial staff to interview a former Des Moines resident who now lives in Stockholm, Sweden, concerning the medical program of that country and to learn the reactions of both doctors and patients toward it.

Though Sweden's setup is not yet completely "socialized" in the full sense of the word, that is the ultimate goal of the present government. Placing such a plan into effect has been under-

way for some years, the change-over being made bit by bit, with the socialist government hoping to complete the conversion within ten years. Doctors have been waging an "unofficial strike" throughout the period, vainly trying to convince the government that the proposed action is fundamentally harmful to the best interests of medicine.

To date Sweden's medical socialization has taken the form of a state health insurance program. Membership and its cost are dependent upon rate of income. A peculiar feature of the plan is that all housewives are permitted to carry state insurance for themselves and their children, since they do not have earned incomes, but their husbands may be prohibited from carrying insurance because of a high income.

There is a tremendous shortage of physicians in Sweden, particularly in the northern sector where sleighs and skis often must be the method of transportation during the winter months. The Swedish training period is considerably longer than is the American, approximating ten years, and exorbitant in cost, about \$14,000. The ability of the state to limit a physician's income—through the state insurance program and an established uniformity of fees—prohibits many young men who would have to borrow money for their educations from entering the profession. As some have stated, it discourages men from becoming doctors and is discouraging to them in practice, for all incentive to "get ahead" is gone. In addition to being limited in the privilege to earn, the physician, along with the other citizens, is subject to extremely high taxes.

The resulting situation is that the men do not as wholeheartedly devote themselves to their profession night and day and build up a personalized practice as is done in the United States. Most physicians take the Christmas holidays off, leaving word with the telephone operator of the date on which they will again be available. A like situation exists with night and Sunday calls. The state has provided for this condition in part by assigning an "on call" or "duty" doctor to each locality daily. Any telephone operator or druggist has information as to who is the duty doctor of each vicinity for that particular day, and in case of emergency he may be called. The plan is effective in that each man's territory is small enough that he is able to render prompt service but is ineffective in that the physician may not be specially trained in the field in which the emergency occurs. This "on call" work is done by young physicians as a part of their training.

Also in Sweden a novel but effective custom

of every doctor having a telephone hour has been established. Along with the telephone directory, in which most physicians' telephone hours are listed, is distributed a "doctor catalog" with each one's name and telephone hours listed in the front and classification by specialty in the back. The flood of calls for each physician is handled through telephone "queues." Instead of calling the physician, the patient calls a special queue number; leaves his name, address, phone number, and the number he wishes to call. This information is placed on the list in its respective order of receipt, and in due time he will be called back, his turn to talk with the doctor having arrived. Medical advice, prescriptions, etc., are supplied to patients in this manner and appointments for the doctor to make house calls should be made during the telephone hour, which is usually between 7:30 and 8:30 a. m. Many doctors are exceedingly reluctant to make sick calls requested at any hour other than during the "telephone hour," sometimes creating a critical situation for patients needing a specialist rather than an "on duty" general practitioner. Appointments for office calls may be made with the nurse any time throughout the day.

Charges to the person interviewed have been approximately 85 cents per phone call, \$4 for the first office call and \$3 thereafter. Payment is made wholly or in part, as the case may be, by filling out and returning the government health insurance forms which the physician includes with his invoice. Only a small part of hospitalization costs is covered by health insurance. If a person feels that his bill is higher than the customary fee, he may register a complaint and his case will be reviewed.

As in America, there is a dire shortage of nurses. In fact, some nursing homes have been closed for that reason. Hospital facilities are excellent but crowded.

It is well that such information as has been outlined should be considered as the handwriting on the wall, or a portent of things to come, should socialized medicine be adopted in the United States.

SPEAKERS BUREAU RADIO SCHEDULE

WSUI—Tuesday at 11:30 a. m.

WOI—Thursday at 11:15 a. m.

- | | |
|----------------|--|
| November 2-4 | Tularemia—Rabbit Fever—Clare A. Trueblood, M.D., Indianola |
| November 9-11 | Anesthesia—Raymond E. Cooper, M.D., Keokuk |
| November 16-17 | Medical Uses of the X-ray—Sieg-mund F. Singer, M.D., Ottumwa |
| November 23-25 | The Boom in Backaches—Carroll O. Adams, M.D., Mason City |

SPEAKERS BUREAU

CARROLL COUNTY POSTGRADUATE COURSE

The Speakers Bureau is happy to announce that in cooperation with the Carroll County Medical Society a postgraduate course will be held at Carroll, Iowa, on the following dates: November 9, 16, and 23, December 7 and 14. All of the doctors in and around Carroll are invited to attend these lectures which will be given by physicians who are well-known specialists in their respective fields of medicine.

The programs are scheduled for evening and will begin with dinner around 6:30 p. m., followed by the lectures, which will be an hour or an hour and a half in length, and will probably close with a question and answer period. There will be one lecture each evening.

All doctors who register for this course, which includes five symposiums, will pay a fee of \$2 for each lecture. We feel that this postgraduate work is particularly worthwhile. The programs are as follows:

- | | |
|-------------|--|
| November 9 | Pediatrics
John L. Gedgoud, M.D., Omaha, Neb. |
| November 16 | Office Management of Diabetes Mel-litus
Eldon S. Miller, M.D., Kansas City |
| November 23 | Office Dermatology with Recent Ad-vances in Allergy
Robert L. Barton, M.D., Dubuque |
| December 7 | Management of Congestive Heart Failure
Speaker not yet scheduled |
| December 14 | Modern Treatment of Pneumonia
Diedrich J. Hanes, M.D., Des Moines |

Announcements will be mailed to all doctors in the area around Carroll preceding the lectures, but check the above dates now and mark them on your appointment calendar so that you may be sure to attend.

SPEAKERS BUREAU SERVICES

The Speakers Bureau will be glad to cooperate with any of the county medical societies desiring postgraduate courses similar to the one above. We will take charge of announcements, planning of the programs, and securing speakers. We will also assist local program chairmen in obtaining men to talk for single meetings of either county society or lay groups. The Speakers Bureau has available the latest listings and reviews of medical motion pictures. These, too, will be supplied upon request. Please remember the central office is here to serve you in any way possible.

NEWS NOTES

from the

Committee on Medical Service and Public Relations

The Maintenance of Interest in a County Medical Society*

I have been faced with exactly the same problem that is indicated by this heading, that of maintaining interest in a county medical society. As Osler put it, "No class of men needs friction so much as physicians; no class gets less. The daily round of a practitioner tends to develop an egoism of the most intense kind, to which there is no antidote. The few setbacks are forgotten, the mistakes are often buried, and ten years of successful work tend to make a man touchy, dogmatic, intolerant of correction, and abominably self-centered. To this mental attitude the medical society is the best corrective."

Because of the development of service they render, physicians are often their own worst enemies. Medical organizations are very essential, especially county societies. These units provide leadership in medical affairs, correct the faults of the individual members, and afford frank, sincere, and open discussions which bring about a closely-woven and smooth functioning organization.

Believing that an efficient public relations program must be carried out almost entirely at a county level, there are several important and desirable objectives.

First, the individual physician must realize that he is the most effective instrument our society has in carrying out its public relations program because of his daily contacts with patients. He must realize that he must arise from the depth of professional isolationism, become interested in public affairs, maintain his conduct above reproach, be able to discuss intelligently with his patients and acquaintances the problems which besiege the practice of medicine, thereby becoming the most important part in the public relations aspect of the county medical society.

Second, any type of information regarding health should be rendered by the county society.

The society itself must be active in public service and take part in various civic undertakings.

Third, a county society should always be ready to give to the press and radio such aid as is necessary to inform the public accurately on any medical subject.

It is my sincere belief that in order to make our public relations program effective, it must be carried out almost entirely by the individual physician in the field. Granted, that our state and national medical societies contribute greatly to our public relations, it still remains for the physicians in the locality to make a public relations program successful and allow us as physicians to hold the esteem and respect of the American public. An enlightened people will then need have no fear of the inroads and planings of reactionaries and professional charlatans.

Let us discuss for a few moments how we can stimulate interest. The first suggestion is that every society have an active, wide-awake and willing secretary. The success of the society depends more on the secretary than on any other member. The secretary must help shape the policies of the society, be ready at all times with suggestions for improving the meetings, assist the program committee in securing and arranging programs, keep in touch with the state and national societies and do all that he can to promote the best interests of the county society. The maintenance of interest in the society is almost directly proportional to the amount of energy and interest put forth by the secretary. An active secretary usually means an active society.

The following is my suggestion for a county program that is acceptable by the majority of doctors. It should be constructed in two phases—the educational and the social. The program must be worthwhile; otherwise you cannot expect your members to attend. The program should be made so attractive that the members will feel that they cannot afford to miss. It should also be made practical and give information which may be used in everyday practice.

*Highlights taken from a paper read by Dr. C. Dudley Miller, Secretary, Crawford County Medical Society, Denison, Iowa, at the second annual Medical Service and Public Relations Conference held at the Hotel Fort Des Moines, Des Moines, Iowa, Sept. 15, 1948.

Do not make the programs too long. A long program tends to drag and interest lags. If motion picture equipment is available, a program of this nature usually is popular. You will often find commercial houses in your locality who are willing to loan their movie equipment for such meetings. This is one phase of their advertising program.

Local members should be developed as much as possible. Often a member is reluctant to prepare an original paper but he can be persuaded to give a review of a recent book or of current literature. These are valuable in maintaining interest.

Although the secretary is the most active worker in the society, it is very important to elect good men to fill the other offices, men who are willing to serve and give the duties of their office all the time that is necessary to serve the society. The officers should always be present and on time. Never elect a member as president merely because you desire to honor him.

Always begin the meetings on time. One way to kill the society is to open late. It is very provoking to those who come on time to wait for the tardy ones before coming to order and then being compelled to leave before the scientific program is half over. Do not take too much time in transacting business. Perhaps it would be best to take up the business after the scientific program, so that those being unable to stay would benefit from the papers and discussions, which, after all, is the important part of the meeting. If the society be of large membership, the board of directors should handle all business matters. Their report can be approved or disapproved at the regular meetings.

A meeting should never be allowed to pass without the presentation of a prearranged program, consisting of stated papers, prepared reports of cases and discussions. The personal experiences of the members presented in well prepared case reports will be of utmost value and will prove a drawing card.

Regularity brings about habit; therefore, meetings should be held at least once a month at a given day and hour. This will prevent members from forgetting the date of the meetings. A card to be hung on the wall of each member's office giving the time and place of the meeting will usually help as a reminder.

The profession of medicine is a field in which continuing study is a vital necessity. The acceptance of this concept by the younger doctors is of the highest importance. These younger men and women must take an active role in

the state and county societies. They must feel that they are their societies.

The influence of the county society in stimulating the professional development of us all is invaluable. When our county societies have met this requirement, we shall see a fusion of opinion and purpose which will result in the achievement of our goal: the highest caliber of professional men and the best medical care anywhere will be found within our own state's borders.

Donald L. Taylor

PNEUMOTHORAX REFILLS

The Tuberculosis Committee has just conducted a survey to determine what doctors in the state are experienced in collapse therapy and capable of doing routine refills of pneumothorax or pneumoperitoneum, and also whether they have access to fluoroscopic equipment. The purpose of the survey was to make the list of such physicians available so that patients might be saved extra travel wherever possible. The names of these physicians follow:

Black Hawk County—Herbert Shulman and T. F. Thornton, Jr., Waterloo.

Boone County—H. C. Scharnweber, Boone.

Bremer County—O. C. Hardwig and H. W. Rathe, Waverly.

Calhoun County—G. S. Rost, Lake City.

Des Moines County—Robert Crawford and Robert Moerke, Burlington.

Dickinson County—T. L. Ward, Arnolds Park.

Dubuque County—J. Carl Painter, Dubuque.

Emmet County—G. B. Johnston, Estherville.

Floyd County—E. V. Ayers and R. A. Fox, Charles City.

Hamilton County—Coburn Ellis, Webster City.

Hardin County—F. N. Cole, Iowa Falls.

Lee County—R. L. Feightner, Fort Madison; John Rankin, Keokuk.

Linn County—R. H. Veldhouse and D. R. Webb, Cedar Rapids.

Mahaska County—Joseph Lederman, Oskaloosa.

Monona County—L. A. Gaukel and P. L. Wolpert, Onawa.

Polk County—Leon J. Galinsky, William J. Morrissey and John C. Parsons, Des Moines.

Pottawattamie County—E. B. Floersch, Council Bluffs.

Scott County—H. J. Evans, Davenport.

Webster County—W. E. Gower, E. M. Kersten, H. T. Larsen, F. S. Larsen, L. J. O'Brien, A. A. Schultz (Pneumothorax only), W. C. Thatcher (Pneumoperitoneum only), and J. J. Weyer, Fort Dodge.

Woodbury County—L. J. Dimsdale, R. J. Harrington and R. N. Larimer, Sioux City.

This list was obtained through the cooperation of the county society secretaries. Should there be other physicians in the state who are experienced in this type of therapy, the committee will be happy to add their names to the list and asks them to notify the central office to that effect.

VETERANS ADMINISTRATION

FEE GUIDE SCHEDULES

At their January, 1948, meeting, the Central Office Professional Service Group recommended that a letter be prepared by the Chief Medical Director to the American Medical Association, explaining the reason for establishing a fee guide schedule and outlining the procedure by which the fees were determined.

Accordingly, on April 27, 1948, the Chief Medical Director addressed a communication to Dr. Morris Fishbein, Editor of the *Journal of the American Medical Association*, containing the above information. This was published as an open letter in the May 22, 1948, issue of the *Journal of the American Medical Association*. For the benefit of those doctors who did not get the opportunity to see it, the JOURNAL is reprinting the text.

"Dear Dr. Fishbein:

"It has come to my attention that considerable misunderstanding has developed throughout the medical profession concerning the establishment of fees for medical services to be paid private physicians participating in the so-called 'Home Town Medical Care Program for Veterans.' It has been contended that the Veterans Administration has arbitrarily established a Fee Schedule which represents the maximum amount which may be paid for any given service and which is, in effect, a National Fee Schedule. It has also been contended that the various State Medical Societies and other interested groups were not consulted when this Fee Schedule was adopted.

"In order to clear up any misunderstanding regarding this matter, it is desired to emphasize that my predecessor, Dr. Paul R. Hawley, had no intention at any time of establishing a National Schedule of Fees, nor do I contemplate doing so. However, the Fee Schedules originally submitted by the various State Medical Societies, when the 'Home Town Medical Program' was inaugurated, varied so widely in format, terminology, and fees for similar or identical services, that it was deemed advisable to establish a uniform Fee Schedule Format and to set up tentative fees which could be used as a guide by the various State Medical Societies when submitting their proposals for the furnishing of medical care to veterans.

"This Uniform Fee Schedule Format was formulated by the Professional Group of National Consultants to the Chief Medical Director. This Group, representing the various specialties in medicine and surgery, is composed of eminent physicians from all parts of the country. Tentative fees were set up in the format after a careful analysis of Pre-Paid Medical Care Plan, Workmen's Compensation and Insurance Fee Schedules, and also the Fee Schedules in effect in the various states having agreements with the Veterans Administration. As was to be expected, considerable variation occurred in the Fee Schedules reviewed.

"The Professional Group of National Consultants made every effort to arrive at fees that were considered to be within reasonable limits and which would, as nearly as possible, allow a uniform provisional fee schedule for use as a guide in facilitating and expediting the preparation of agreements between State Medical Societies and the Veterans Administration.

"Further attempt was made to provide for elasticity in the charges for certain operations or other services which seemed to evoke more than average contention by listing the minimum and maximum amounts considered equitable. These items bear the notation 'AA,' which indicates that the fee for the given service is to be determined by arbitration and agreement between the Veterans Administration and the Medical Society concerned.

"May I reiterate that the Veterans Administration Fee Schedule Format is in no sense to be construed as an arbitrary or National Fee Schedule. Furthermore, it is subject to periodic review and such modification as conditions may indicate.

"If it meets with your approval, I would appreciate it very much if you could possibly arrange to publish this as an open-letter in the *Journal of the American Medical Association*. I should like this to reach all of the physicians throughout the country, and I know of no better way to do it than through the JOURNAL.

"Very truly yours,

"PAUL B. MAGNUSON

"Chief Medical Director."

HISTORY OF MEDICINE IN IOWA

Edited by the Historical Committee

DR. WALTER L. BIERRING, Des Moines, *Chairman*

DR. JOHN T. MCCLINTOCK, Iowa City, *Secretary*

DR. CHARLES L. JONES, Gilmore City

DR. CLYDE A. HENRY, Farson

DR. LESTER C. KERN, Waverly

DR. JEANNETTE DEAN-THROCKMORTON, Des Moines

DR. EVERETT M. GEORGE, Des Moines

JOHN RILEY, M.D., Exira, Iowa An Iowa Doctor 98 Years of Age

It is interesting to record a few biographical data of an Iowa physician of the same age as the Iowa State Medical Society, and probably the oldest living physician in this state.

In response to an inquiry of Dr. Jeannette D. Throckmorton, medical librarian, Dr. Riley wrote on September 24 in his own handwriting "that he was born August 18, 1850, near Cambridge, Illinois; that his father, John Riley, was a physician, having graduated in 1843 at Castleton Vermont Medical College; that his father influenced him to study medicine, and he received the degree of Doctor of Medicine from the Medical Department of the State University of Iowa in 1880. He came to Exira, Iowa, soon after his graduation and has practiced there ever since; in 1911 at 91 years of age he retired from active practice although he still occasionally writes a prescription. In 60 years of practice he has seen the evolution of Iowa medicine from the horse and buggy period to the days of the automobile. During all these years, with the extensive obstetric practice, he has been fortunate to have the same nurse assistant, Mrs. Mary Kilworth, who celebrates her 107th birthday this month, in fairly good health."

What a career of human service, as well as a tribute to longevity.

W.L.B.

Accompanying the aforementioned letter were two interesting reprints to be presented to the Medical Library.

1. Castleton Medical College; Catalogue of the students and graduates of the spring term, 1843, and annual announcement of the fall session, 1843.

2. An Introductory Lecture, delivered in the Castleton Medical College on April 10, 1843, by James McClintock, M.D., President of the College and Professor of Anatomy and Surgery.

FERDINAND J. SMITH, M.D. 1862-1948

An Appreciation

It is fitting to record a tribute of recognition to a pioneer Iowa physician, practitioner, medical educator and historian.

Dr. Ferdinand J. Smith died at his home on Miller's Bay, Lake Okoboji, on Aug. 27, 1948, after a brief illness at the age of 86 years. He was born in Chicago, Ill., Feb. 27, 1862, and spent his childhood in Davenport, Iowa, attending elementary and secondary schools of that city. He was graduated from Iowa State College, Ames, in 1883, following which he was awarded a teaching fellowship at Massachusetts Institute of Technology, Boston. Two years later he entered the medical department of the State University of Iowa, being under the preceptorship of Dr. W. F. Peck, Dean and Professor of Surgery, and was graduated in March, 1887. He located for the practice of medicine at Alton, Iowa, continuing until 1904. During this period he belonged not only to the days of the "Saddle Bags," "the horse and buggy," but was also the first owner of an automobile in Sioux County; he was one of the founders of the Sioux Valley Medical Society.

In 1904 he gave up his practice at Alton to pursue graduate study at the University of Heidelberg, Germany, in preparation for the teaching of physiological chemistry at Drake University School of Medicine, Des Moines. He was elected secretary of the medical faculty and he had a large part in the remarkable scientific revival of this medical school until its close in 1913, when it became affiliated with the College of Medicine, State University of Iowa, at Iowa City. After six years of general practice at Little Rock, Iowa, he returned to his home on Lake Okoboji. He there had a prominent part in the organization of the Okoboji Protective Association, as well as the foundation of Iowa Lakeside Laboratory in cooperation with the late Professor Thomas H. MacBride of the University.

(Continued on page 505)

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

A-B-C'S OF SULFONAMIDE AND ANTIBIOTIC THERAPY—By Perrin H. Long, M.D., F.R.C.P., Professor of Preventive Medicine, The Johns Hopkins University School of Medicine; Physician, The Johns Hopkins Hospital. W. B. Saunders Company, Philadelphia, 1948. Price, \$3.50.

CONGENITAL MALFORMATIONS OF THE HEART—Helen B. Taussig, M.D., Associate Professor of Pediatrics, Johns Hopkins University School of Medicine, and Director of the Children's Cardiac Clinic at the Harriett Lane Home of the Johns Hopkins Hospital. The Commonwealth Fund, New York, 1947. Price, \$10.

DETAILED ATLAS OF THE HEAD AND NECK—By Raymond C. Truex, M.S., Ph.D., Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University, and CARL E. KELLNER, Artist, Department of Anatomy, College of Physicians and Surgeons, Columbia University. Oxford University Press, New York, 1948. Price, \$15.

ESSENTIALS OF PATHOLOGY—By Lawrence W. Smith, M.D., F.O.A.P., Formerly Professor of Pathology, Temple University School of Medicine, Associate Professor of Pathology, Cornell University Medical School, and Assistant Professor of Pathology, Harvard Medical College. Corresponding Member of the Royal Flemish Medical Academy of Belgium; and EDWIN S. GAULT, M.D., F.C.A.P., Associate Professor of Pathology and Bacteriology, Temple University School of Medicine. With a foreword by the late JAMES EWING, M.D., Memorial Hospital, New York City. Third edition. The Blakiston Co., Philadelphia, 1948. Price, \$12.

HANDBOOK OF ORTHOPAEDIC SURGERY—By Alfred Rives Shands, Jr., B.A., M.D., Medical Director of the Alfred I. du Pont Institute of the Nemours Foundation, Wilmington, Delaware; Visiting Professor of Orthopaedic Surgery, University of Pennsylvania School of Medicine, Philadelphia, Pa. In collaboration with RICHARD BEVERLY RANEY, B.A., M.D., Associate in Orthopaedic Surgery, Duke University School of Medicine, Durham, N. C.; Lecturer in Orthopaedic Surgery, University of North Carolina School of Medicine, Chapel Hill, North Carolina. Third edition. The C. V. Mosby Company, St. Louis, 1948.

THE LIVER AND ITS DISEASES: Comprising the Lowell Lectures Delivered at Boston, Mass., in March, 1947. H. P. HIMSWORTH, M.D., Professor of Medicine in the University of London; Director of the Medical Unit, University College Hospital, London; Fellow of the Royal College of Physicians of London; Fellow of University College, London. Harvard University Press, Cambridge, Mass., 1947. Price, \$5.

MEDULLARY NAILING OF KÜNTSCHER—By Lorenz Bohler, M.D., Director of the Hospital for Accidents in Vienna; Professor of Surgery at the University of Vienna. First English edition revised by the author. Translated from the eleventh German edition by HANS TRETTER, M.D., Surgeon

in Charge of the New Jersey Manufacturers Hospital, Active Consultant in Traumatic Surgery at the Orthopaedic Hospital, Trenton, N. J.; Former Assistant to Dr. Bohler at the Hospital for Accidents in Vienna; Former Demonstrator of Anatomy, University of Graz, Austria. The Williams and Wilkins Co., 1948. Price, \$7.

MICROBIOLOGY AND PATHOLOGY—By Charles F. Carter, B.S., M.D., Instructor in Pathology and Applied Microbiology, Parkland Hospital School of Nursing, Dallas, Texas; Director, Carter's Clinical Laboratory, Dallas, Texas; Consulting Pathologist, St. Louis Southwestern Railway Hospital, Texarkana, Arkansas; Consulting Pathologist, Mother Frances Hospital, Tyler, Texas; Formerly Director of Laboratories, Parkland Hospital. Fourth edition. The C. V. Mosby Company, St. Louis, 1948. Price, \$5.

PEDIATRICS AND THE EMOTIONAL NEEDS OF THE CHILD—As discussed by pediatricians and psychiatrists at Hershey, Pennsylvania, March 6-8, 1947. Edited by Helen L. Wittmer. The Commonwealth Fund, New York, 1948. Price, \$1.50.

PERIPHERAL VASCULAR DISEASES: DIAGNOSIS AND TREATMENT—David W. Kramer, M.D., F.A.C.P., Associate Professor of Medicine, Jefferson Medical College; Assistant Physician, Jefferson Hospital; Chief Clinical Assistant, Vascular Clinic, Jefferson Hospital; Visiting Physician, Medical Division, Philadelphia General Hospital; Consultant on Peripheral Vascular Disorders, Philadelphia General Hospital; Attending Physician, Metabolic Division, and Chief of Diabetic Clinic, Jewish Hospital; Attending Physician and in Charge of Department of Metabolic and Peripheral Vascular Disorders, St. Luke's and Children's Medical Center; Metabolist to Eagleville Sanatorium. Foreword by EDWARD L. BORTZ, M.D., F. A. Davis Co., Philadelphia, 1948. Price, \$8.

ROENTGEN STUDIES OF THE LUNGS AND HEART: A Series of Lectures Delivered at the Center for Continuation Study, University of Minnesota—By NILS WESTERMARK, M.D., Director, Department of Radiology, St. Goran's Hospital, Stockholm, Sweden; Edited by LEO G. RIGLER, M.D., Professor of Radiology, University of Minnesota. The University of Minnesota Press, Minneapolis, 1948. Price, \$7.

VIRUS DISEASES OF MAN—By C. E. van Rooyen, M.D., D.Sc. (Edin.), M.R.C.P. (Lond.), Research Member and Professor of Virus Infections, Connaught Medical Research Laboratories and School of Hygiene, University of Toronto. Formerly Sir Halley Stewart Research Fellow, and Lecturer in Bacteriology, University of Edinburgh, and London School of Hygiene and Tropical Medicine, University of London. Thomas Nelson and Sons, New York, 1948. Price, \$20.

YOUR BABY—The Complete Baby Book for Mothers and Fathers—By Gladys Denny Shultz, Contributing Editor, *Ladies' Home Journal*, and Lee Forrest Hill, M.D., Former President, American Academy of Pediatrics. Doubleday & Company, Inc., Garden City, N. Y., 1948. Price, \$3.50.

BOOK REVIEWS

TREATMENT OF HEART DISEASE

By William A. Brams, M.S., M.D., Ph.D., Associate Professor of Medicine, Northwestern University Medical School, and Attending Physician, Michael Reese Hospital, Chicago. W. B. Saunders Co., Philadelphia, 1948. Price, \$3.50.

This 174 page book is limited to the methods of treatment of heart disease used by Dr. Brams. It will be of value to the general practitioner and the medical student who desires a brief but systematic and practical guide for such treatment.

The first part of the book gives the pharmacologic action of the mercurials, the xanthenes, digitalis, quinidine, oxygen and the hypnotics and sedatives as used in the treatment of heart disease, and is pre-

sented in a manner that will give the physician enough data to vary his treatment to meet all needs.

The major portion of the book is devoted to the treatment of all types of heart disease with special emphasis on the treatment of congestive failure. This book might well be adopted as a model for treatment by the general practitioner.

G. H. W.

THE HEALTHY HUNZAS

By J. I. Rodale. Rodale Press, Emmaus, Pa., 1948. Price, \$2.75.

This book has been written by the editor of *Organic Gardening* magazine, apparently in an effort to attract converts to the idea that chemical fertilizers are an abomination. A remote tribe in India and

their habits form the basis for subject matter. This tribe indulges in several practices not acceptable to modern medicine.

E. M. G.

A HISTORY OF THE HEART AND THE CIRCULATION

By Frederick A. Willius, M.D., M.S. in Med., Senior Consultant in Cardiology, Mayo Clinic; Professor of Medicine, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota; and THOMAS J. DRY, M.B., Ch.B. in Med., Consultant, Section on Cardiology, Mayo Clinic; Associate Professor of Medicine, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota. W. B. Saunders Co., Philadelphia, 1948. Price, \$8.

This history of medicine in regard to the heart and circulation provides pleasant reading as well as serving as a reference book. It presents the various important events which have led to our present knowledge of these subjects.

Doctors Willius and Dry bring their historic subjects along in chronologic order so that one can see the gradual opening of the flower of knowledge through the efforts of the succession of great men of the ages.

It is a book which any doctor should be proud to have and use, either in his home library or in his office medical library.

J. C. P.

PRACTICAL BACTERIOLOGY, HEMATOLOGY, AND PARASITOLOGY

By E. R. Stitt, M.D., Ph.M., Sc.D., LL.D., Rear Admiral, Medical Corps, and Surgeon General, U. S. Navy, Retired. Graduate of the London School of Tropical Medicine. Formerly President of the National Board of Medical Examiners; Head of the Department of Tropical Medicine, U. S. Naval Medical School; Associate Professor of Medical Zoology, University of the Philippines. Consultant in Tropical Medicine to the Secretary of War, World War II. PAUL W. CLOUGH, M.D., Physician-in-Charge of the Diagnostic Clinic, Johns Hopkins Hospital; Assistant Professor of Medicine, Johns Hopkins University; Associate Professor of Medicine, University of Maryland; SARA E. BRANHAM, M.D., Ph.D., Sc.D., Senior Bacteriologist, National Institute of Health; Professorial Lecturer in Preventive Medicine, The George Washington University School of Medicine; Chairman, Laboratory Section, American Public Health Association, 1946-1947; and Contributors. Tenth edition. The Blakiston Company, Philadelphia, 1948. Price, \$10.

This textbook is a much needed one which supplies a well balanced and coordinated treatment of the field of bacteriology, hematology and parasitology with an excellent stress on clinical picture of disease. It is straightforwardly written in excellent form with only necessary and pertinent deviations.

Dr. Charles Wardell Stiles has revised the section covering helminthology, protozoology, entomology and herpetology with stress on the practicality and usefulness to the busy medical profession.

Revision of the bacteriology section by Dr. Sara E. Branham is excellently done covering the new concepts of immunology and bacteriology.

The illustrations and graphic methods used throughout the text add effectiveness and value to the book.

This is an excellent reference book which is not cumbersome with unusual and controversial ideas; it should be readily acceptable to those in the field of medicine.

J. U.

VASCULAR DISEASES IN CLINICAL PRACTICE

By Irving Sherwood Wright, M.D., Associate Professor of Clinical Medicine, Cornell University Medical College; Chief of Section on Vascular Diseases of the Department of Medicine, New York Hospital. The Year Book Publishers, Inc., Chicago, 1948. Price, \$7.50.

Here is a book which clearly delineates the approach to the adequate study and treatment of vascular diseases.

The chapter on "Methods of Study of the Patient" is very helpful to anyone who is approaching the subject of vascular diseases with the idea of gaining a comprehensive viewpoint. Later chapters on the individual diseases are thorough, both in the diagnostic descriptions and in the suggestions as to treatment.

The knowledge of vascular diseases, of course, is in a state of development, but this book gives a good idea of the present day accumulation of helpful information concerning this rather extensive subject.

J. C. P.

THE SKULL, SINUSES AND MASTOIDS

A Handbook of Roentgen Diagnosis—By Barton R. Young, M.D., Professor of Radiology, Temple University Medical School. The Year Book Publishers, Inc., Chicago, 1948. Price, \$6.50.

Dr. Young's book is concise, yet complete and informative. Nearly every condition is finely illustrated. This volume is excellent for review and valuable as a quick reference handbook.

H. J. P.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. ALLAN G. FELTER, Van Meter

President-elect—MRS. CHARLES A. NICOLL, Panora

Secretary—MRS. CHARLES T. MAXWELL, Sioux City

Treasurer—MRS. M. A. ROYAL, 1138 Thirty-seventh Street, Des Moines 11

FALL BOARD MEETING

The Executive Board of the Woman's Auxiliary to the Iowa State Medical Society held its fall board meeting at the Hotel Savery, Des Moines, October 4. Mrs. A. G. Felter of Van Meter, state president, presided. The conducting of routine business was greatly facilitated by distribution of mimeographed copies of committee reports and suggestions. Committee reports which have not hitherto appeared in the "Woman's Auxiliary News" will be published in succeeding issues.

The resignation of Mrs. C. A. Nicoll, Panora, who was president-elect, was accepted with regret. Mrs. R. M. Minkel, Fort Dodge, first vice president, agreed to complete Mrs. Nicoll's term in conjunction with her present duties as provided by the new constitution.

Mrs. E. T. Warren, Stuart, revisions chairman, distributed bound copies of the new constitution. These will be available at the central office to all Auxiliary members. County presidents are expected to acquire and distribute a sufficient number for their own membership to eliminate unnecessary office work and mailing.

Mrs. W. R. Hornaday, Des Moines, nurses' loan fund chairman, reported that two girls are being benefited through the loan fund at the present; one is in training at Lutheran Hospital and the other at Methodist Hospital in Des Moines.

At the luncheon, Miss Norelius, executive secretary of the Iowa State Nurses' Association, discussed proposed legislation in the nursing field. She explained that the old nurse practice act requires changes in reciprocal policy so that more nurses will enter Iowa to practice. The shortage of nurses makes the use of practical nurses inevitable, and therefore a standard of rating, training and pay should be established. All practicing nurses should be licensed. The proposed bill aims at creating various levels of training with a future goal of several schools of practical nursing set up throughout the state and approved by a board of examiners. At present there is only one school of practical nursing in Iowa—Mercy Hospital in Marshalltown.

Mrs. Dorothy Phillips, executive secretary of the Iowa Society for Crippled Children, explained the comprehensive filing system which resulted from the sale of handicraft made by handicapped persons which was sponsored by the Polk County Auxiliary

last spring at Younkers. Work in the same field done at Sioux City has been especially outstanding, too. The ideal would be a permanent shop located in Des Moines and other key spots throughout Iowa where handicraft of the handicapped might be saleable throughout the year.

Miss Mary McCord, executive secretary of the Iowa State Medical Society, spoke briefly about the progress of the Woman's Auxiliary through its specific programs promoted during the last few years. She stated that some states have found more doctors' wives active in Auxiliary work when dues are paid by the county medical societies and all wives automatically become members of the Auxiliary.

Mrs. K. M. Chapler

HYGEIA COMMITTEE

At the fall board meeting in Des Moines, the *Hygeia* Committee submitted the following suggestions for increasing the number of subscriptions:

1. See that each doctor in the county subscribes to *Hygeia* and keeps it in his waiting room.
2. Contact the dentists and hospitals in the county and see if they will subscribe or renew their subscriptions.
3. Contact the local schools. Miss Jessie Parker has placed it on the list of approved magazines for teachers. If any school cannot include it in its budget, see if the county medical society will place it in the school.
4. Keep in mind that *Hygeia* makes a useful gift.

Mrs. J. Stewart Jackson, *Hygeia* Chairman

SECOND COMMUNITY WORKSHOP

Mrs. A. G. Felter, Mrs. Fred Moore and Mrs. K. M. Chapler were present at the health section of the Second Community Workshop held at the Hotel Savery in Des Moines October 11 and 12. Representatives from many organizations on a national and state level with public health interests were present.

Dr. E. E. Shaw of Indianola acted as chairman and Leonard C. Murray of the State Department of Health as secretary. Mimeographed briefs explained health needs in Iowa. There were no prepared speeches, but informal discussion provided an opportunity for varied interests to find expression.

Mrs. Dorothy Phillips, executive secretary of the Iowa Society for Crippled Children, stressed the need for a physical therapist in the State Department of Health. Miss Norelius, executive secretary of the Iowa State Nurses' Association, condoned the fact that nurses cannot obtain postgraduate work in Iowa for there is none provided. Dr. Charles Graves, first director of Iowa Mental Hospitals, stated that low salaries are no inducement to doctors to practice in the mental institutions of the state and more psychiatrists are badly needed.

Dr. Walter Bierring, commissioner of the State Health Department, spoke at length on local health council plans, their organization and function and proposed federal legislation directed toward that end. A brochure on local health councils is obtainable through the State Department of Health, as well as is a complete list of films suitable for innumerable programs on health topics.

The Second Community Workshop, sponsored by the Iowa Council for Better Education, was instituted to coordinate thinking on agriculture, cultural arts and recreation, education, government, health, homes and family life, industry and labor, and religious life. A condensation of the various forums on the above topics will be printed later.

Mrs. K. M. Chapler

ACTIVITIES OF COUNTY AUXILIARIES

Buchanan County

At a joint meeting with the Buchanan County Medical Society, an Auxiliary was organized in June. Mrs. R. L. Knipfer of Jessup is president and Mrs. J. F. Loeck of Independence is secretary-treasurer.

Pottawattamie County

The Pottawattamie County Medical Auxiliary met September 21 at the Hotel Chieftain for a 6:30 dinner. Mrs. Oscar Baumeister, guest speaker, discussed the Christmas seal program. The Auxiliary voted to assist in this program and Mrs. L. R. Martin was appointed chairman of the volunteer workers.

Mrs. Fred Beaumont, Publicity Chairman

Wapello County

The Wapello County Medical Auxiliary held its September meeting at the home of Mrs. E. B. Howell, Ottumwa. The Auxiliary voted to sponsor one nurse-in-training each year. A nursing committee was appointed last spring and hospital superintendents were contacted. Four girls are enrolled in training at St. Joseph's Hospital as a probable result of pre-graduate interviews. All of the members are making an effort to keep informed on the issue of socialized medicine.

Mrs. E. B. Howell

Webster County

The Auxiliary to the Webster County Medical Society at a recent luncheon meeting made plans for a tea which was given October 15 at the Wah-

konsa Hotel, complimenting the nurses during their state meeting in Fort Dodge. Officers of the Webster County Medical Auxiliary and wives of the officers of the Webster County Medical Society served on the reception committee for the tea, but each and every member of the Auxiliary worked diligently to make the tea a gala affair.

Mrs. J. F. Vincent was appointed to take charge of subscriptions to *Hygeia*.

Mrs. M. W. Burseson and Mrs. L. J. O'Brien have been named as representatives to attend the meetings of the social planning board.

Mrs. Charles J. Baker

PROGRAM SUGGESTIONS

Our aim: Well-informed Auxiliary members to work and promote health education.

1. The American Medical Association's National Health Program.

Suggested reading along this line is contained in the following:

a. Journal of A.M.A., Jan. 24, 1948, pp. 271-2. (An article entitled "Public Health Service and Medical News.")

b. Minutes of House of Delegates—recent A.M.A. session in Chicago.

c. A.M.A. Journal—issues of July 3, 10, 17, 1948.

2. Make a study of your community health problems. By starting at the roots we are better qualified to work up to the goal we are trying to reach—"Better Health the American Way."

3. Seek always the advice of your advisory council.

Mrs. L. A. Coffin, Program Chairman

PRESIDENT'S MESSAGE TO THE WOMAN'S AUXILIARY TO THE IOWA STATE MEDICAL SOCIETY

We must admit the growth of the Woman's Auxiliary to the Iowa State Medical Society has been rather slow. This is true not only of our Iowa State Medical Society but also on a national level. The intense propaganda in Washington in support of socialized medicine for the past 15 years shows there is a real need for the Woman's Auxiliary in American medicine, for as a group doctors' wives can do so much more, not only individually but collectively, toward offsetting the propaganda by the proponents of socialized medicine.

It is indeed distressing to know that only 24 counties are organized in Iowa. I would suggest you might be more successful organizing on a district basis. By that I mean a councilor district. Probably the councilor would help you sell the component medical societies to the proposal that an Auxiliary is really needed, that it can render an outstanding service to organized medicine through its efforts to educate the public of the pitfalls of socialized medicine. This can be done on a national level through P.T.A. organizations, service clubs, National Federation of Women's Clubs, etc., to which Auxiliary members belong.

I can assure you the officers of the Iowa State Medical Society are fully behind you in any program you may undertake.

James E. Reeder, M.D., President

THE NURSING PROBLEM

How will it be solved?

F. H. Arestad, M.D., Chicago, Council on Medical Education and Hospitals, American Medical Association, spoke at the Second Annual Meeting on Medical Service and Public Relations at Des Moines, Iowa, on Sept. 15, 1948.

Two separate studies have been made regarding the nursing problem:

1. Nursing for the Future—A report prepared for the National Nursing Council by Esther Lucille Brown, Ph.D. Dr. Brown is the Director of the Department of Studies in the Professions of the Russell Sage Foundation. She has previously written six other books. Two of them are "Physicians and Medical Care" and "Nursing as a Profession." Her studies are an attempt to discover how education for an essential profession can be molded to meet the present needs of society.

2. Another is the survey made by the American Medical Association. A committee was appointed to study the nursing problem. The complete report will be found in the July 3, 1948 issue of the *Journal of the American Medical Association* on page 878. The committee studied the problem under three headings: Immediate Relief, Proposed Training for All Grades of Nurses in the Future, and the Economic Situation.

a. Regarding immediate relief—the committee recommended that retired nurses, including married nurses, be requested to fill in during the emergency. A great deal of publicity has been given this subject. Trained practical nurses under supervision are being used. Use nurses only in nursing duties and assign other work to Auxiliary personnel.

b. The committee recommends two classes of nurses—

1. Professional nurses.
2. Trained practical nurses.

b-1. Nurse Educators—Nurses who have both a college education and nurses' training, may be a combination of both.

Clinical Nurse—Comparable to the present day general duty or private duty nurse. Training reduced to two years.

Dr. Esther L. Brown in her report stressed that nurse standards be maintained.

b-2. The trained practical nurse's course of study consists of three months' theory and nine months' practical work.

The economic problem presents certain features which should be corrected.

1. Steps should be taken to provide social security and retirement plans for all nurses.

2. Salaries, hours, sick leave and vacations should be made comparable to other fields of endeavor for women with equivalent education and training.

3. The committee also recommends that the cost of essential special nursing care to the patient be covered by prepayment nursing plans, or be tied into prepayment hospital and medical plans if practicable.

A permanent conference committee made up of representatives of the American Nurses' Association and other nurse organizations, the American Hospital Association and the American Medical Association, has been formed. The duties of this committee will be to study the problems common to all. Nursing problems are the most urgent and important at present.

Dr. Brown recommends that uniform standards for trained practical nurses be adopted throughout the country. Twenty-six states require practical nurses to be licensed. Utilize trained practical nurses. At present there are fifty-eight schools in the United States ready to train practical nurses now. The Mercy Hospital School of Nursing has a school for practical nurses at Marshalltown in Iowa. In 1941 there were 41,000 student nurses; in 1944, 67,000; 1945, 57,000; in 1946, 30,000; in 1947, 40,000; and in 1948 we hope to have 50,000 students. It is estimated that there are about 342,737 nurses now available. A bulletin issued by the Women's Bureau of the U. S. Department of Labor indicates that 550,000 nurses will be required to care for the American people in 1960 if current standards of nursing are maintained. To accomplish this 50,000 nurses must be graduated each year from 1951 to 1960.

What can we do?

1. Watch the Des Moines Sunday *Register* for an illustrated article on "The Need for Practical Nurses." It will appear soon.

2. Continue our student nurse recruitment program that the Woman's Auxiliary Nursing Interests Committee has been promoting in all Iowa counties.

a. Doctors' wives and nurses working together can help include nursing in the vocational guidance programs in the high schools.

b. Use literature and the movie, a 16 mm. 10 minute sound film, that is available through the Iowa State Medical Society office, 505 Brankers Trust Building, Des Moines, Iowa.

c. Doctors' wives can individually use every opportunity to encourage young girls to consider nurse's training as a profession and a foundation for future living. Doctors' wives can arrange programs where young girls can learn the facts about nursing. This is probably best done through other organizations in each community, such as women's clubs, P.T.A., American Legion Auxiliary, Farm Bureau meetings, 4-H Clubs, high school assemblies, and church and Sunday School groups.

The hospital nearest you will be glad to furnish nurses as speakers for your program. Student nurses make excellent program material for high school groups. The county public health nurse is doing a fine job of nurse recruitment in various ways as she performs her work every day.

Build up good relations between the nurses and

doctors' wives in our individual community. Include the nurses in social and community activities. Nurses too are recruiting young women for future nurses.

The Iowa Division of the American Cancer Society has set aside the sum of \$15,000 to finance nurses' scholarships which are to be given on the basis of need, character and ability. County chapters are asked to aid in recruiting candidates.

For any questions or suggestions regarding nurse recruitment, write to the Woman's Auxiliary to the the Iowa State Medical Society office, 505 Bankers Trust Building, Des Moines, Iowa.

Mrs. Howard W. Smith,
Chairman, Nursing Interests

LEGISLATIVE COMMITTEE

First, it must be remembered that we are an Auxiliary and must work with the approval and guidance of the advisory council and the legislative committee of the Iowa State Medical Society, but as individuals we can all be informed. It has been suggested that our slogan might well be "Study and Educate."

All Auxiliary members can keep informed about legislation on both state and national levels which concerns the health and well-being of the public and is, therefore, of concern to the medical profession. We must know:

1. The contents of such proposed legislation.
2. Progress made by outstanding bills; arguments for and against; who supports them and why?
3. Principles and policies of the American Medical Association that guide their approval or disapproval of proposed legislation.
4. Reasons why the American Medical Association feels federal or state control of medical care and such measures as compulsory health insurance are not the right answer for the United States.
5. Measures advocated and encouraged by the profession to meet the needs of all the people without side-stepping or ignoring lacks, inadequacies or imperfect distribution of medical resources in some of our areas.

Our tools:

1. The ballot—and be sure that our relatives and friends are registered and vote also.
2. Study groups, out of which could grow panels of well-informed, able speakers available to present discussions before women's clubs, church groups, etc., with the approval of the State Medical Society.
3. American Medical Association publications that are, or should be, in every doctor's home.
 - a. A.M.A. Journal, where "Washington Letters" keep us abreast of the happenings in Congress, and "Medical Legislation" lists bills and shows the trends in state legislatures.
 - b. State and county medical periodicals that emphasize state interests.

c. A.M.A. handbook.

d. New publications. All Auxiliaries should own the following:

"The Issue of Compulsory Health Insurance" by George W. Backman and Louis Merriam, a study by the Brookings Institute, 722 Jackson Place, N.W., Washington 6, D. C. Price, \$2.00.

"Private Enterprise or Government in Medicine" by Louis Hopewell Bauer, M.D., publisher, Charles C. Thomas, Springfield, Illinois. Price, \$5.00.

If we are well-informed individuals, we will have countless opportunities in our daily lives to influence public thinking and action, and help spread the medical profession's viewpoint on proposed legislation for medical care and public health services to the nation. But, unless we are properly informed, we may do more harm than good—thus the slogan: "Study and Educate."

Mrs. Cecil C. Jones,
Chairman, Legislation Committee

HISTORY OF MEDICINE

(Continued from page 499)

Following his retirement from practice he became interested in medical history and contributed some interesting chapters of Iowa medical history, particularly on the early period of medical education. Most of these were published in the history section of the JOURNAL. Under the title "The Transition from the Franklin Medical School (Indiana) to the Keokuk College of Medicine of the State University of Iowa and History of Drake University, College of Medicine" he presented the evolutionary progress of medical education in Iowa until 1913, when all medical schools were merged in the one University College of Medicine at Iowa City.

Dr. Smith made a careful study of his ancestral tree and published in 1944 an interesting treatise, "The Sokolowski Escutcheon and the Family Tree." Through his grandmother "Federow" he traces his lineage to Alexander Sokolowski, a Polish statesman, and through him back to the Corvins—an illustrious family before the days of the Roman Caesars.

Following his retirement from practice he became an expert with the camera, and contributed distinctly to the photography of the beautiful Okoboji lake region.

Throughout his life Dr. Smith was a lover of music, and a good performer on the piano until shortly before his death.

He is survived by his two sons who followed in his profession: Dr. Millard F. Smith of Trinidad, Colo., and Dr. Arthur F. Smith of Manning, Iowa.

W.L.B.

COUNTY MEDICAL SOCIETY OFFICERS

COUNTY	PRESIDENT	SECRETARY	DEPUTY COUNCILOR
Adair.....	Ralph DeCicco, Greenfield.....	A. S. Bowers, Orient.....	S. Bowers, Orient
Adams.....	J. C. Nolan, Corning.....	C. L. Bain, Corning.....	A. W. Brunk, Prescott
Allamakee.....	J. W. Myers, Postville.....	C. R. Rominger, Waukon.....	J. W. Thornton, Lansing
Appanoose.....	R. R. Edwards, Centerville.....	E. F. Ritter, Centerville.....	E. A. Larsen, Centerville
Audubon.....	W. H. Halloran, Audubon.....	H. K. Merselis, Audubon.....	L. E. Jensen, Audubon
Benton.....	G. R. Woodhouse, Vinton.....	L. W. Koontz, Vinton.....	N. B. Williams, Belle Plaine
Black Hawk.....	J. F. Gerken, Waterloo.....	F. G. Loomis, Waterloo.....	A. J. Joynt, Waterloo
Boone.....	R. S. Shane, Pilot Mound.....	H. C. Scharnweber, Boone.....	J. O. Ganoe, Ogden
Bremer.....	R. E. Shaw, Waverly.....	O. S. Blum, Waverly.....	F. R. Sparks, Waverly
Buchanan.....	P. J. Leehy, Independence.....	J. F. Loeck, Independence.....	J. W. Barrett, Jr., Independence
Buena Vista.....	R. P. Noble, Alta.....	R. E. Mailliard, Storm Lake.....	H. E. Farnsworth, Storm Lake
Butler.....	B. V. Anderson, Greene.....	F. F. McKean, Allison.....	Bruce Ensley, Shell Rock
Calhoun.....	P. W. Van Metre, Rockwell City.....	C. E. Knouf, Lake City.....	W. W. Weber, Pomeroy
Carroll.....	T. H. Van Camp, Breda.....	J. R. Martin, Carroll.....	W. L. McConkie, Carroll
Cass.....	W. W. Kitson, Atlantic.....	J. F. Moriarty, Atlantic.....	
Cedar.....	Fred Montz, Lowden.....	J. E. Smith, Clarence.....	P. M. Hoffman, Tipton
Cerro Gordo.....	Draper Long, Mason City.....	J. W. Lannon, Mason City.....	G. J. Sartor, Mason City
Cherokee.....	D. C. Koser, Cherokee.....	H. D. Seely, Cherokee.....	C. H. Johnson, Cherokee
Chickasaw.....	E. C. O'Connor, New Hampton.....	P. C. Richmond, New Hampton.....	P. E. Gardner, New Hampton
Clarke.....	F. S. Bowen, Woodburn.....	C. R. Harken, Osceola.....	H. E. Stroy, Osceola
Clay.....	C. C. Jones, Spencer.....	D. H. King, Spencer.....	C. C. Colletter, Spencer
Clayton.....	C. W. Keith, Strawberry Point.....	T. W. Lichter, Edgewood.....	P. R. V. Hommel, Elkader
Clinton.....	V. W. Peterson, Clinton.....	M. B. Emmons, Clinton.....	R. F. Luse, Clinton
Crawford.....	R. A. Huber, Charter Oak.....	C. Dudley Miller, Denison.....	C. L. Sievers, Denison
Dallas-Guthrie.....	Donald W. Todd, Guthrie Center.....	C. A. Nicoll, Panorama.....	
Davis.....	Richard Schoonover, Bloomfield.....	H. C. Young, Bloomfield.....	C. H. Cronk, Bloomfield
Decatur.....	F. A. Bowman, Leon.....	E. E. Gamet, Lamoni.....	F. A. Bowman, Leon
Delaware.....	Paul Stephen, Manchester.....	R. E. Clark, Manchester.....	
Des Moines.....	W. R. Lee, Burlington.....	F. H. Coulson, Burlington.....	F. G. Ober, Burlington
Dickinson.....	F. L. Roberts, Spirit Lake.....	Ruth Wolcott, Spirit Lake.....	T. L. Ward, Arnolds Park
Dubuque.....	F. P. Quinn, Dubuque.....	R. P. Rusk, Dubuque.....	J. C. Painter, Dubuque
Emmett.....	J. P. Clark, Estherville.....	G. B. Johnston, Estherville.....	S. C. Kirkegaard, Estherville
Fayette.....	M. G. Beddoes, Oelwein.....	W. J. Wolfe, West Union.....	C. C. Hall, Maynard
Floyd.....	E. J. Goen, Charles City.....	E. V. Ayers, Charles City.....	R. A. Fox, Charles City
Franklin.....	W. R. Arthur, Hampton.....	W. W. Taylor, Sheffield.....	J. C. Powers, Hampton
Fremont.....	Ralph Lovelady, Sidney.....	A. E. Wanamaker, Hamburg.....	A. E. Wanamaker, Hamburg
Greene.....	J. I. Limburg, Jr., Jefferson.....	E. D. Thompson, Jefferson.....	L. C. Nelson, Jefferson
Grundy.....	H. L. Mol, Grundy Center.....	Varina Des Marias, Grundy Ctr.....	W. O. McDowell, Grundy Center
Hamilton.....	F. F. Hall, Webster City.....	B. F. Howar, Webster City.....	M. B. Galloway, Webster City
Hancock-Winnebagoo.....	D. F. Shaw, Britt.....	I. E. Brown, Forest City.....	C. V. Hamilton, Garner
Hardin.....	E. J. Steenrod, Iowa Falls.....	F. N. Cole, Iowa Falls.....	F. N. Cole, Iowa Falls
Harrison.....	C. W. Byrnes, Dunlap.....	E. H. Hanson, Magnolia.....	F. H. Hanson, Magnolia
Henry.....	W. H. Megordon, Mt. Pleasant.....	J. R. Beebe, Mt. Pleasant.....	J. S. Jackson, Mt. Pleasant
Howard.....	P. A. Nierling, Cresco.....	Abner Buresh, Lime Springs.....	
Humboldt.....	A. E. Jensen, Humboldt.....	C. A. Newman, Bode.....	I. T. Schultz, Humboldt
Ida.....	J. B. Dressler, Ida Grove.....	W. P. Crane, Holstein.....	E. S. Parker, Ida Grove
Iowa.....	D. F. Miller, Williamsburg.....	I. J. Sinn, Williamsburg.....	I. J. Sinn, Williamsburg
Jackson.....	O. L. Frank, Maquoketa.....	F. J. Swift, Jr., Maquoketa.....	F. J. Swift, Maquoketa
Jasper.....	L. P. Adams, Newton.....	J. W. Ferguson, Newton.....	R. W. Wood, Newton
Jefferson.....	I. N. Crow, Fairfield.....	Robert A. Ryan, Fairfield.....	I. N. Crow, Fairfield
Johnson.....	S. C. Ware, Iowa City.....	R. C. Hardin, Iowa City.....	G. C. Albright, Iowa City
Jones.....	J. D. Paul, Anamosa.....	C. R. Smith, Wyoming.....	T. M. Redmond, Monticello
Keokuk.....	K. L. McGuire, Keota.....	John Maxwell, What Cheer.....	D. L. Grothaus, Delta
Kossuth.....	C. H. Cretzmeyer, Algona.....	M. G. Bourne, Algona.....	J. G. Clapsaddle, Burt
Lee.....	F. L. Poepsel, Ft. Madison.....	F. D. Evans, Keokuk.....	R. L. Feightner, Fort Madison
Linn.....	D. S. Challed, Cedar Rapids.....	John Parke, Cedar Rapids.....	G. H. Ashline, Keokuk
Louisia.....	E. S. Groben, Columbus Junction.....	J. H. Chittum, Wapello.....	B. F. Wolverton, Cedar Rapids
Lucas.....	Dean Curtis, Chariton.....	R. E. Anderson, Chariton.....	J. H. Chittum, Wapello
Lyon.....	A. C. Wubben, Rock Rapids.....	S. H. Cook, Rock Rapids.....	S. L. Throckmorton, Chariton
Madison.....	G. J. Anderson, Winterset.....	P. F. Chesnut, Winterset.....	H. Cook, Rock Rapids
Mahaska.....	M. R. Greenlee, Oskaloosa.....	R. M. Collison, Oskaloosa.....	C. B. Hickenlooper, Winterset
Marion.....	F. M. Roberts, Knoxville.....	D. S. Burbank, Pleasantville.....	E. B. Wilcox, Oskaloosa
Marshall.....	R. C. Wells, Marshalltown.....	E. C. Knight, Marshalltown.....	H. L. Bridgeman, Knoxville
Mills.....	W. A. DeYoung, Glenwood.....	T. E. Shonka, Malvern.....	A. D. Woods, State Center
Mitchell.....	T. G. Walker, Riceville.....	William Owen, St. Ansgar.....	D. W. Harman, Glenwood
Monona.....	L. A. Gaukel, Onawa.....	P. L. Wolpert, Onawa.....	T. S. Walker, Riceville
Monroe.....	H. J. Richter, Albion.....	T. A. Moran, Melrose.....	C. W. Young, Onawa
Montgomery.....	H. C. Bastron, Red Oak.....	E. M. Sorensen, Red Oak.....	C. C. Fowler, Lovilia
Muscatine.....	K. E. Wilcox, Muscatine.....	L. C. Hallendorf, Muscatine.....	Oscar Alden, Red Oak
O'Brien.....	E. B. Getty, Primghar.....	W. S. Balkema, Sheldon.....	C. P. Phillips, Muscatine
Osceola.....	E. S. Aelits, Sibley.....	Frank Rizzo, Sibley.....	W. R. Brock, Sheldon
Page.....	C. H. Flynn, Clarinda.....	F. S. Sperry, Clarinda.....	Frank Reinsch, Ashton
Palo Alto.....	J. W. Woodbridge, Emmetsburg.....	W. A. Johnson, Emmetsburg.....	W. H. Maloy, Shenandoah
Plymouth.....	R. J. Fisch, Le Mars.....	L. C. O'Toole, Le Mars.....	H. L. Brereton, Emmetsburg
Pocahontas.....	H. L. Pitluck, Laurens.....	C. L. Jones, Gilmore City.....	W. L. Downing, Le Mars
Polk.....	L. D. Powell, Des Moines.....	H. C. Bone, Des Moines.....	C. L. Jones, Gilmore City
Pottawattamie.....	G. J. Klok, Council Bluffs.....	S. A. Cohen, Council Bluffs.....	J. B. Synhorst, Des Moines
Poweshiek.....	T. E. Brobynn, Grinnell.....	E. S. Korfmaacher, Grinnell.....	G. N. Best, Council Bluffs
Ringgold.....	O. L. Fullerton, Redding.....	J. W. Hill, Mt. Ayr.....	C. E. Harris, Grinnell
Sac.....	J. W. Gauger, Early.....	C. E. Lierman, Lake View.....	E. J. Watson, Diagonal
Scott.....	J. H. Sunderbruch, Davenport.....	M. J. Brown, Davenport.....	J. R. Dewey, Schaller
Shelby.....	C. V. Bisgard, Harlan.....	A. J. Ryan, Harlan.....	A. P. Donohoe, Davenport
Sioux.....	C. O. Oelrich, Sioux Center.....	C. B. Murphy, Alton.....	Wm. Doornink, Orange City
Story.....	J. G. Fellows, Ames.....	W. B. Armstrong, Ames.....	Bush Houston, Nevada
Tama.....	H. S. Bezman, Traer.....	A. J. Havlik, Tama.....	A. A. Pace, Toledo
Taylor.....	G. W. Rimel, Bedford.....	J. H. Gasson, Shenandoah.....	G. W. Rimel, Bedford
Union.....	A. S. Beatty, Creston.....	C. E. Sampson, Creston.....	C. Rambo, Creston
Van Buren.....	R. E. Olson, Milton.....	L. A. Coffin, Farmington.....	L. A. Coffin, Farmington
Wapello.....	W. N. Whitehouse, Ottumwa.....	E. B. Hoeven, Ottumwa.....	C. A. Henry, Farson
Warren.....	E. E. Shaw, Indianola.....	C. H. Mitchell, Indianola.....	C. H. Mitchell, Indianola
Washington.....	M. L. McCreedy, Washington.....	W. S. Kyle, Washington.....	E. D. Miller, Wellman
Wayne.....	J. H. McCall, Allerton.....	C. F. Brubaker, Corydon.....	J. H. McCall, Allerton
Webster.....	C. J. Baker, Fort Dodge.....	M. W. Burleson, Fort Dodge.....	H. E. Nelson, Dayton
Winnebago.....	R. N. Svendsen, Decorah.....	R. M. Dahlquist, Decorah.....	L. C. Kuhn, Decorah
Woodbury.....	R. T. Rohwer, Sioux City.....	E. H. Sibley, Sioux City.....	D. B. Blume, Sioux City
Worth.....	S. S. Westly, Manly.....	G. S. Westly, Manly.....	S. S. Westly, Manly
Wright.....	E. M. Smith, Eagle Grove.....	J. R. Christensen, Eagle Grove.....	J. H. Sams, Clarion

SOCIETY PROCEEDINGS

MEETINGS

Black Hawk County

The regular meeting of the Black Hawk County Medical Society was held September 21 at the Elks Club, Waterloo. Dr. Mayo H. Soley, dean of the College of Medicine, State University of Iowa, spoke on "The Handling of Patients with Various Types of Goiter."

On October 19 the group again met at the Elk's Club. The program consisted of speeches on "Cancer of Stomach," "Cancer of Breast," "Responsibility of Physician in Early Diagnosis," and "Cancer of Lung."

Calhoun County

The Calhoun County Medical Society held its September meeting at the Pine Room, Lake City, on September 23. Members of the Greene, Sac and Carroll County Societies were guests. Following a 7 p. m. dinner, Dr. James E. Dyson of Des Moines spoke on "Poliomyelitis."

Cerro Gordo County

The Cerro Gordo County Medical Society meeting was held on September 15 at the Hotel Hanford following a complimentary dinner. The minutes of the last medical meeting and the council meeting were read and approved. Dr. Carroll Adams outlined the tentative program for the meeting sponsored by the Council on Medical Service and Public Relations held in Des Moines September 15. Dr. Ralph Smiley spoke briefly on "Industrial X-ray for Tuberculosis" which is being undertaken by the tuberculosis association in Mason City, beginning in October. Dr. C. W. Seibert of Waterloo addressed the group on "Toxemia of Pregnancy."

Delaware County

The regular meeting of the Delaware County Medical Society was held Wednesday evening, October 13, at the Glen-Charles Hotel in Manchester with 24 in attendance. The doctors' wives were guests at the dinner, following which separate meetings were held. A scientific paper on "Differential Diagnosis of Chest Pain" was read by Dr. Ralph D. Hunting, Cedar Rapids.

Dubuque County

Dr. William B. Bean of the State University of Iowa College of Medicine addressed members of the Dubuque County Medical Society at their meeting at the Bunker Hill Golf Club October 12. "Diagnosis and Treatment of Cirrhosis of the Liver" was his subject.

Greene County

The Greene County Medical Society held a dinner meeting for the doctors and their wives at 6:30 p. m. September 30 at the Woman's Club. Following the business meeting, "March of Time" motion pictures were shown.

Johnson County

The Johnson County Medical Society met October 6 at the Jefferson Hotel, Iowa City. Following a 6 p. m. dinner and the business meeting, Dr. Mayo H. Soley, Dean of the College of Medicine at the State University of Iowa, addressed the group on "Radioiodine in Thyroid Disease." Dr. Titus C. Evans, Research Professor of Radiology and Radiobiology at the State University, opened the discussion.

Lee County

The Lee County Medical Society met September 15 at the Athens Hotel, Fort Madison. Dr. Mark C. Wheelock discussed "New Aspects of Cytological Diagnosis of Cancer," and "Malignancies of the Lymphoid System."

Marion County

The Marion County Medical Society held a dinner and meeting at Jordan Hall, Central College, Pella, on September 16. Following dinner, Dr. R. C. Gutch of Chariton presented a paper on "Public Relations"; Dr. Ralph H. Heeren of the State Department of Health spoke on "Poliomyelitis in Iowa in 1948"; and Dr. George Clark of Oskaloosa spoke on "Common Urologic Problems." The talks were followed by an open discussion on each subject by the 26 members present.

Page County

The monthly meeting of the Page County Medical Society was held at the Clarinda Country Club September 23. Dr. George Alliband of Omaha, Neb., spoke on "Common Problems in Ocular Therapeutics." Three new members were admitted to the society: Drs. Stuart T. Ramsdell, H. S. Frenkel, and K. I. Feher.

Polk County

The Polk County Medical Society met October 20 at the Des Moines Club, Des Moines, for dinner and a scientific program. Mr. Wilbur R. Quinn, executive director of Iowa Medical Service, reported to the members on the operations of the organization.

Scott County

Dr. Nathan Womack of the State University of Iowa's Department of Surgery spoke on "The Etiology of Cholecystitis" at a meeting of the Scott County Medical Society, held at the Lend-a-Hand Club, Davenport, October 5. A scientific motion picture on "Therapeutic Uses of Heat" was shown.

Washington County

The Washington County Medical Society met September 23. Following a 6:30 p. m. dinner, Dr. E. D. Miller of Wellman gave a talk on his recent European trip, illustrating it with both still and moving pictures.

Woodbury County

The September meeting of the Woodbury County Medical Society was held at the Mayfair Hotel, Sioux City, at 6:30 p. m., September 23. Dr. Donald H. Slaughter, Professor of Pharmacology and Dean of the Medical School at the University of South Dakota, spoke on "A Critical Evaluation of Pain-relieving Drugs."

On October 21 the group met at the Martin Hotel, Sioux City. Following dinner, L. D. Vaughn, M.D., of the Mayo Clinic spoke on "Current Trends in Antibiotic Therapy."

PERSONALS

Dr. J. Borman, who completed four years' training at Augustana Hospital, Chicago, in September, became associated with Dr. F. J. Swift, Jr., of Maquoketa on October 1.

Dr. Fred A. Bowman discussed the problem of socialized medicine before the Rotary Club of Leon September 27.

Dr. Kenneth Buresh has become associated with his uncle, Dr. Abner Buresh, in the practice of medicine at Lime Springs. The former is a graduate of the State University of Iowa College of Medicine and has been taking care of Dr. Thomas G. Walker's practice in Riceville while he was on vacation.

Dr. Rubin H. Flocks, Professor in the Department of Urology, and Dr. Nathan A. Womack, Professor of Clinical Surgery, participated in panel discussions at the Thirty-fourth Clinical Congress of the American College of Surgeons held in Los Angeles October 18 to 22. Dr. Flocks collaborated in a panel on "The Clinical Management of Branched Renal Calculi," and Dr. Womack on "Evaluation of Liver Function in Relation to Surgery."

Dr. John L. Garred has established offices for the practice of medicine at Whiting. Dr. Garred was graduated from the University of Louisville School of Medicine in 1946 and served his internship at the St. Joseph Infirmary in Louisville, Ky.

Dr. G. W. Howe opened offices in Marengo in Sep-

tember. A graduate of the State University of Iowa College of Medicine, Dr. Howe recently completed his internship at a Rochester, N. Y., hospital.

Dr. L. N. Hungerford, a graduate of the State University of Iowa College of Medicine with the class of 1945, has entered practice in Fairfield. Dr. Hungerford was recently separated from the Army Medical Corps in which he had served two years.

Dr. Van W. Hunt, who has been serving a fellowship at the Mayo Clinic the past three years, specializing in internal medicine, has joined the staff of Park Hospital, Mason City. He will also practice his specialty of internal medicine in Mason City. Dr. Hunt is a graduate of the University of Chicago School of Medicine with the class of 1944.

Dr. Olan R. Hyndman and Dr. Maurice W. Van Allen have established a neurosurgical practice in Davenport. Dr. Hyndman is a graduate of Johns Hopkins University School of Medicine, Baltimore. From 1943 to 1948 he was Associate Professor of Surgery at the University of Colorado Medical School, during which time he also engaged in private practice in Denver. Dr. Van Allen was graduated from the State University of Iowa College of Medicine in 1942. Since 1946 he has been engaged in private practice in Denver and served on the neurosurgical staff at Denver General Hospital and the University of Colorado Medical Center.

Dr. George E. Morrissey of Davenport spoke to members of the Exchange Club September 24. He discussed heart attacks and what to do to help recovery.

Dr. Frank L. R. Roberts of Spirit Lake has returned to practice in partnership with Dr. Ruth F. Wolcott.

Dr. Gerald R. Rausch recently opened offices for the practice of neurology and psychiatry in Sioux City. Dr. Rausch, who was engaged in private practice in Clarinda before entering service in 1942, completed a two year residency in the Department of Neuropsychiatry, Washington University, St. Louis, in July, 1948.

Dr. Harold Sauer of Marshalltown was guest speaker at a luncheon meeting of the city P.T.A. council October 4.

Dr. Ernest E. Shaw served as chairman of the health section of the Community Development Workshop which was held at Hotel Savery, Des Moines, October 11 and 12.

Dr. H. E. Sorensen has located in Graettinger where he has entered practice. Dr. Sorensen has been on the staff at the Fitzsimmons Army Hospital, Denver, Colo., the past two years.

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CEREBRAL PALSY

Winthrop M. Phelps, M.D., Baltimore, Md.

Cerebral palsy denotes all those conditions in which interference with the control of the motor system arises as a result of a lesion within the brain. The name has been selected in the last few years as one which encompasses the field much better than any other similar name. The first mention of this condition in literature, as far as we can tell, was by Little in 1863. The disability was known as Little's disease for some time subsequent to that. He described a child who had scissor-like legs, no use of the arms, no speech and who was feeble-minded. He stated that nothing could be done for these children at all, and therefore they should be put away in institutions and forgotten.

This general view of his was accepted and has been reiterated in most of the textbooks. Consequently, the next 50 years saw nothing whatsoever done about these children. However, about 1920 interest began to revive in this field again, and it became obvious that what was called Little's disease was only a particular subdivision of cerebral palsy. The name is fortunately being relegated to medieval history, since it is quite clear that the term Little's disease comprises but a small percentage of all the cases of cerebral palsy.

The next name that was given to this condition was spastic paralysis. As study of the condition has developed, it has become obvious that spastic paralysis is only one type of this condition and that it is important not to call all of them spastics because of the fact that the treatment varies according to the type of cerebral palsy.

Cerebral palsy concerns many of the various specialties in medicine. It is not specifically an orthopedic problem. It is encountered by the pediatricians, neurologists, neurosurgeons and internists, and it is even encountered by the geria-

trists, since the longevity of these people is not necessarily diminished by the condition.

The division of cerebral palsy into its various groups has been made by most of us who are working with it entirely on the basis of the motor picture. The reason for this is that little is known of the pathology of the condition. In the first place, the mortality rate in these patients is no greater than normal. Most of them die at home, and their death is not heard of until two or three months after they have died. Consequently, the pathologic material that we have been able to obtain is little. There have been only a few brains of cerebral palsy individuals that have been studied at autopsy with any degree of care. We do know that when there is damage to the adult brain, either by neoplasm, trauma, or infection, certain neurologic syndromes are developed. In the neurologic textbooks, these syndromes are very beautifully and carefully outlined.

It has been found, however, that in cerebral palsy these syndromes do not always hold true. The reason for this is that the degree of compensation possible in the adult or more fully developed brain, where the undamaged portion already has a definite function, differs from the degree of compensation possible in the younger brain.

There are three parts of the brain which are concerned with the control of the motor system. These are the motor cortex, the basal ganglia and the cerebellum. So, grossly, we would know that damage to the cortex would give a different picture from damage to the basal ganglion, and that still a different picture would be developed by damage to the cerebellum. What detailed parts of the brain are damaged in these areas is very difficult to say.

For instance, it has been stated that some types of athetosis are due to damage to the lenticular nucleus and that certain tremors arise in the red nucleus. Whether this is actually true in a child who has had brain damage since birth or before we have no idea. We have had an unusual case

which bears upon these points. This child showed the absence of any basal ganglia. He had had a very difficult birth and the cord was around the neck. The child was in transverse position, had a fractured clavicle and all the classical story of a severe birth injury. However, it was obvious when we really studied his brain that this child had already been an athetoid before birth and had moved around so much in the uterus that he presumably got himself into a transverse position with the cord around the neck because of the already existing athetoid motions.

I think often we run into that sort of situation. It certainly is true that the number of children who have cerebral palsy resulting from injuries at birth is much smaller than was formerly thought to be the case. About 15 years ago it was generally considered that practically all of them were injured at birth, and obstetricians came in for a great deal of criticism at that time. But it has since been found that the obstetricians probably have very little to do with the situation. In asking the question of the families of these patients in several hundred cases, "When did you first notice that the child was not normal?" the average stated was about eight months of age before they really began to be worried about the child.

I have seen some children who have had extremely difficult, severe births with tremors, children who were blue and had convulsions, who later on have become absolutely normal individuals with no motor handicap of any kind.

It is interesting, also, to realize that the number of children with cerebral palsy that I have seen, who were born by cesarean, is quite high. Also, I have seen at least a dozen pairs of twins born by cesarean in whom one child was cerebral palsied and the other was not. That is a very difficult thing to understand.

Another related fact that is very important is the comparative incidence of the disease. We have made surveys in various states and various cities, both in the extremely urban areas and in extremely rural areas. We have taken the number of children born in an outstanding city obstetric hospital and the children born in the mountains of western Maryland or West Virginia where the children are usually delivered either by a grandmother or nobody.

On building up the statistics, it has been shown that the percentage of cerebral palsied children in these areas is exactly the same. The percentage does not appear to vary anywhere throughout this country. These studies have been made in large numbers of cases, in all sorts of sam-

pling areas—in the west, the east, the north, and the south, in cities and in the country. The incidence of the disease does not seem to vary.

There are 7 cerebral palsied infants born every year in every 100,000 of population. We have found that 1 of these 7 dies under 2 or 3 years of age, probably because the condition is too severe to be consistent with maturation. Thus, the annual increase in the number of these children is 6 in every 100,000 of population.

If we examine these 6 children closely, we find some interesting things. Two of these 6 are mentally defective children as a result of the brain pathology. The other 4 are not affected mentally by the condition. Of course, they may be mentally retarded if they have come from a mentally retarded family. The cerebral palsy has not produced mental deficiency in any of those 4, however.

The 2 that I first spoke of who are mentally defective can be, in the first place, excluded from a plan for control and treatment of these children to a great degree. Mental defectiveness supersedes physical crippling, but these children should be treated for their physical condition to a certain extent; since a mentally defective child who can walk around in an institution is a great deal easier to take care of and less expensive to the state than the one who has to be carried around and have a personal attendant practically all of the time. It is also much easier to take care of a child who can feed himself. In general, my feeling is that these two mentally defective children should be given sufficient treatment to make them easier to care for provided that the time necessary is not prohibitive.

The other 4 children who are mentally normal, out of this 6 in every 100,000, can be divided as follows: One is so severely handicapped physically, although normal mentally, that the child is homebound. He would require some treatment physically, but not too much, because the child is almost untreatable physically. That child would require education, however, because we have excluded the 2 feeble-minded ones. This child would then have a normal mind in a severely physically handicapped body.

One of these 4 is such a mild case that the child will not need much if any treatment. The other 2 are of moderate degree of severity, responsive to treatment, and entirely educable because they are mentally normal.

If we exclude the feeble-minded, the extremely severe and the very mild, we find that the working figure for the care of these children is two new patients born out of every 100,000 of popu-

lation each year. Thus, in a town of 100,000 there would be 40 such children under 20 years of age; or in a town of 1,000,000 there would be 400 such children, etc. Those are the ones who can be, to a very great extent, entirely reclaimed.

The first type comprises the ones who have damage to the cortex of the brain or the pyramidal system. Those children are the spastics who may have flaccid muscles mixed in with the spastic ones because damage to the cortex can produce either cerebral spasticity or cerebral flaccidity. The second group comprises those with damage to the basal ganglia. These are the athetoids with involuntary motions and uncontrollable movements. They may often be mistaken for spastics because they try to stop these motions by throwing in a great deal of tension.

The third group comprises the ataxics in whom the damage is to the cerebellum, and the picture is one of a loss of directional control of the motions rather than involuntary motion or spasticity.

The fourth group is the small group who have tremors, which would also include in older people such conditions as paralysis agitans since paralysis agitans is a motor disability, the origin of which lies in damage to a certain part of the brain.

The fifth group comprises the rigidities which are the ones who do not have spasticity, with a nice springy stretch reflex in the muscles, but a lead-like stiffness. Rigidity is the result of widespread damage to the brain, either by such things as multiple petechial hemorrhages or cerebral anoxia where the brain is widely injured. Of course, most of the true rigidities are the group in which we find the highest degree of mental deficiency because widespread brain damage tends to result in that.

In the treatment of these children, we have four armamentarium. In the first place, the fundamentals of treatment are the therapies, including physiotherapy, occupational therapy, and speech therapy, because these children do not have the normal action patterns for the arms, legs or tongue. These patterns have to be developed by training.

For example, in infantile paralysis a child may lose his ability to walk and then by proper orthopedic operations, he may be able to walk again. That child is not taught to walk, however; he already knew how to walk as regards the cortical pattern of walking. In cerebral palsy the pattern has to be taught. Hence, no matter what operations might be done, you would still have to teach that child to walk. Therefore, the primary and fundamental part of the treatment of these chil-

dren is the use of the therapies in re-education of the brain to carry out these otherwise automatic activities.

The second most important part of the treatment of these children is the use of braces and other apparatus. The braces are not used for support, but they are what we call control braces and are for the purpose of making the child go through normal walking motions. For example, if a child has a marked scissor of the legs, either due to spasticity or athetosis or rigidity, braces can be applied which will make that child carry through only the normal forward, progressive motions without allowing for the scissor part of it. Then a normal walking pattern can be developed. If we attempt to teach that child to walk without braces, one foot keeps getting caught behind the other, and he has no opportunity to practice these walking motions. Control braces are of great importance in the training of the various motions.

The third part of the training is the use of drugs. There has been much written about drugs in the public press lately, most of which has proved to be incorrect. The drugs are in a state of investigation at present. They have enough apparent possibility to continue to work with them.

Let us take, for example, the question of prostigmine, which has been discussed so much. Prostigmine is supposed to enhance muscle contractility by facilitating the absorption of the acetylcholine at the neuromuscular junction. A spastic muscle is a hyperirritable, hypercontractile muscle which contracts when you try to stretch it. Certainly one does not want to make it still more contractile by the use of prostigmine. On the other hand, the rigid muscle in the rigidities is a slow acting, poor muscle which would undoubtedly be benefited by improving its contractility. Therefore, if prostigmine improves contractility, it would be worth giving it a trial in the rigidities but certainly not in the spasticities. All the spastic patients with whom we have used it have had no definite effects from it whatever. The rigidities have shown considerable improvement in some cases.

There is another group of drugs which is interesting—the hyoscine group which is used in encephalitis and seems to result in very good improvement in some of these children. The reason for this is that encephalitis is again an acquired disease; these children knew how to walk before they got encephalitis, and if there is a drug which will facilitate the use of their legs, in many instances they can relearn to walk. This

will obviously not work in cases who have never learned to walk and have had the condition since birth. These drugs, therefore, have to be considered in that light.

Curare has been disappointing to me because there is no carry-over. It has been used to make it easier to treat these children and to cut down the increased tension so that they can do their exercises better, but the minute the curare wears off they are just as they were before in all of my cases. I cannot see that it has any permanent value as yet with these children.

The hydantoins which have been previously used, mostly for epilepsy, are quite useful in reducing tension and, of course, can be given over long periods of time consistently because their toxic effects are low. These drugs are of great interest at present.

The fourth part of the treatment is, of course, orthopedic surgery. Neurologic surgery has proved of some help in a few cases of athetosis where cortical operations have been done after the methods of Bucy and Klemme.

Orthopedic surgery is definitely useful in the adult spastics if it is very carefully considered, and muscle balance is always carefully worked out between flexors and extensors or abductors and adductors, since a good many scissor gaits are due not to spasticity of the adductors alone but to flaccidity of the abductors as well. Hence, if a tenotomy or operative neurectomy is done on adductors in which the deformity is due to flaccidity of the abductors, it may well cut out all possibility of walking.

In regard to the athetoids, orthopedic surgery has been almost 100 per cent useless. This is because athetosis might be described as an attempt on the part of the patient to get an extremity into a distorted position with any muscles with which he can do it. If a certain muscle function is cut out by an arthrodesis, he will get into that position with some other muscles. It is always best when considering such procedures on an athetoid to put on a brace which will cut out the involuntary motion which you wish to eliminate. If the result is favorable, then surgery can later be considered. If the result is unfavorable, of course, the brace can be taken off and no permanent harm has been done.

These children have to be treated as early as possible. It is best to try to get them when they are 3 years old or younger, if the condition can be found, and start treatment at the nursery school level, carrying it right straight along through their entire childhood.

The training should parallel the mental education of the child. Skills cannot be taught to children who are not yet old enough to do them. Hence, this condition cannot be cured in a matter of two or three years since it is a gradual re-training process which must carry up to the adult skill levels. It is very much the better plan to combine the physical re-education with the mental re-education by putting these training units in the public schools wherever possible, since otherwise transportation becomes very much of a problem.

If this sort of regime is carried out, the children carefully classified in the beginning, the various types of the condition identified, and then the proper therapies, braces, drugs, and surgery carried out, the results obtained are excellent, and a great many of the children can be made to lead useful adult lives.

THE ETIOLOGY OF DIABETES MELLITUS: CURRENT CONCEPTS*

Arthur G. Lueck, M.D., Des Moines

In the usual scientific research for the cause of a disease, progress is considered promising when the field of investigation narrows and begins to point toward one organ or organism. This is not true of diseases of the endocrine glands, for as knowledge advances the horizon becomes broader. It is no longer possible to discuss abnormal behavior of one gland without taking into consideration the behavior of others.

In 1889 von Mering and Minkowski, after removing the pancreas from dogs, produced in them a disturbance of carbohydrate metabolism similar to diabetes mellitus in humans. Their experiment aroused speculation as to the possible cause of diabetes mellitus and seemed to narrow the field of study of diabetes to the pancreas. In 1922 Banting and Best added to this conviction by extracting from pancreas a substance which modified the diabetic state toward normalcy. They named the substance insulin.

In the ensuing years scientists began to wonder why the pancreas sometimes failed in its function. Was there some agent generated elsewhere in the body that suppressed or inactivated insulin secretion? In the search for such a neutralizing agent many possibilities were weeded out. The organs and glands still receiving scrutiny are the anterior pituitary, adrenal cortex, thyroid and liver. These, along with the pancreas, the carbohydrate-utilizing tissues, and fat comprise the

*Presented at the Regional Meeting of the American College of Physicians, Des Moines, October 9, 1948.

principals in our discussion. They are diagrammatically depicted in figure 1.

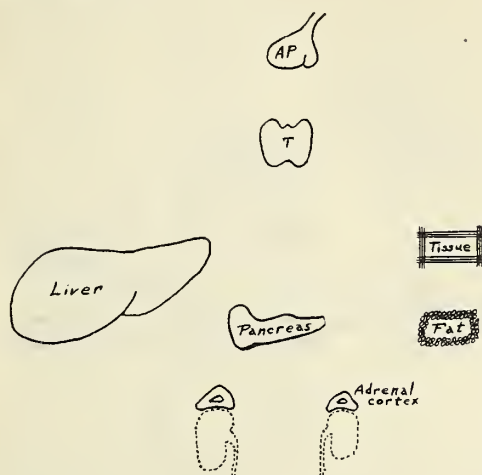
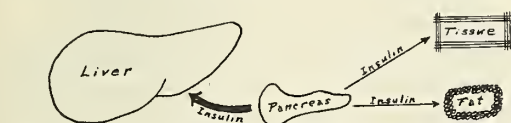


FIG. 1. Glands, organs, tissues involved in diabetes mellitus.

Though all of these organs are in one way or another involved in the defective metabolic state that is diabetes mellitus, the center of attention is still the pancreas, whose islands of Langerhans' beta cells are the undoubted source of the antidiabetic hormone *insulin*. Nearby, in the liver, is the principal seat of carbohydrate metabolism; although other tissues, particularly muscle, carry on a sizeable share of this function. Farther away are the endocrine organs, whose secretions influence the whole process. The effect of the gonads is too slight to be significant.

Before elaborating on the possible factors which play a regulating part in carbohydrate metabolism, let us review briefly the actions of insulin. This hormone is intimately associated with the ultimate chemical changes that occur in the absorbed carbohydrates, fats, and proteins.



Insulin promotes (in liver and tissues):
 Glucose conversion to storage form, glycogen.
 Glycogen reconversion to glucose.
 Glucose conversion to fatty acids.
 Insulin promotes (in tissues):
 Carbohydrate utilization.
 Insulin inhibits (in the liver):
 Production of glucose and glycogen from protein and fat.

Fig. 2. Known actions of insulin.

In the liver and certain peripheral tissues insulin is known to promote: (a) conversion of glucose to glycogen, the storage form of carbohydrate; (b) glycogen reconversion to glucose according to body energy requirements; and (c) glucose conversion to fatty acids. In just the

tissues insulin facilitates carbohydrate utilization. In only the liver insulin inhibits production of glucose and glycogen from protein and fat.

Insulin controls only one isolated step in the complicated reaction involved in the conversion of glucose to glycogen. (See figure 3.) This reaction is popularly referred to as the "hexokinase reaction."

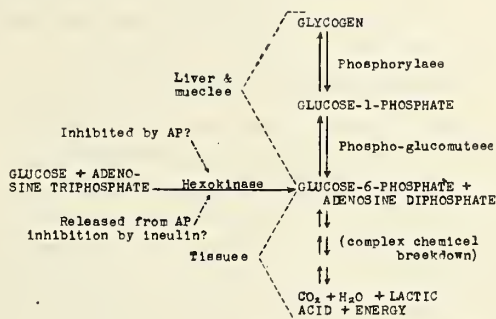


Fig. 3. Formation and breakdown of glycogen and oxidation of carbohydrate: THE HEXOKINASE REACTION (From Insulin).

The fact of chief interest to us is that *some secretion of the anterior pituitary is believed to inhibit the action of the enzyme, hexokinase, and that insulin releases hexokinase from pituitary inhibition*. Accordingly, glucose cannot be converted to glycogen unless insulin neutralizes pituitary influence. In the absence of insulin, glucose accumulates in the body. A secondary result of insufficient insulin is a failure of the tissues to properly utilize glucose. This "under-utilization" of carbohydrates was at one time thought to be the chief defect in diabetes, a theory which, championed by Minkowski, has now been relegated to a subordinate position. At the other extreme, von Noorden's "overproduction" theory proposes that in diabetes glucose is overproduced in the liver from noncarbohydrate sources, protein and fat. Insulin inhibits this activity, an action which is at present considered to be the principal function of insulin.

A newly-discovered role for insulin is in the synthesis of fatty acids. Stetten¹ used isotope technic to prove that ten times as much glucose is synthesized into fatty acid as is converted to glycogen. His subject animals were rats and rabbits. He eliminated their insulin supply by the administration of alloxan, and in such animals he found the fatty acid formation greatly retarded. This newer concept may account for the weight loss in uncontrolled human diabetes. Stetten supposes, also, that insulin guides fat to storage in the normal depots instead of in the liver as occurs in insulin deficiency. More in-

vestigations along these lines remain to be completed before the importance of insulin to fat metabolism can be appreciated.

We know now that research directed toward determining the etiology of diabetes is complicated by the manifold actions of insulin, which include some part in the utilization, synthesis, transport, and deposition of carbohydrate, protein and fat. The next step is a consideration of the known and postulated hormones and effects arising from other endocrine glands.

Influence of the Anterior Pituitary

In 1936 Houssay² published the results of a brilliant work which was the starting signal for further experiments to determine the source of the "diabetogenic" factor. He compared depancreatized dogs with a group of dogs that were hypophysectomized as well as depancreatized. The doubly operated animals developed hyperglycemia and glycosuria, but the diabetes was milder than in the control animals with only a pancreatectomy.

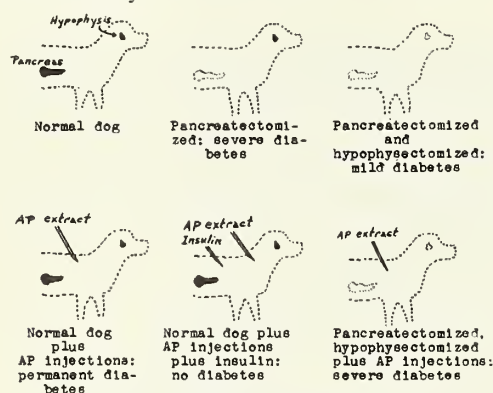


Fig. 3a. Anterior pituitary influence.

Furthermore, the pancreatectomized dogs were found to be insulin resistant, while the hypophysectomized-pancreatectomized dogs were insulin sensitive. Injection of anterior pituitary extract into the latter caused an exacerbation of the diabetic state. Shortly after Houssay's investigation Young³ injected crude anterior pituitary extract intraperitoneally daily into normal dogs, and found that, by progressively increasing the quantity of extract, a permanent diabetic state resulted upon cessation of the injections. Degranulation and hydropic degeneration of the islet beta cells occurred in a manner similar to the type seen in human diabetes. Haist, Campbell, and Best⁴ carried the experiment further by administering large doses of insulin along with the pituitary extract; insulin prevented development of the diabetic state. A study of figure 4 will clarify the implications of these experiments.

Outside the laboratory there is clinical evidence pointing to the pituitary gland's role in the caus-

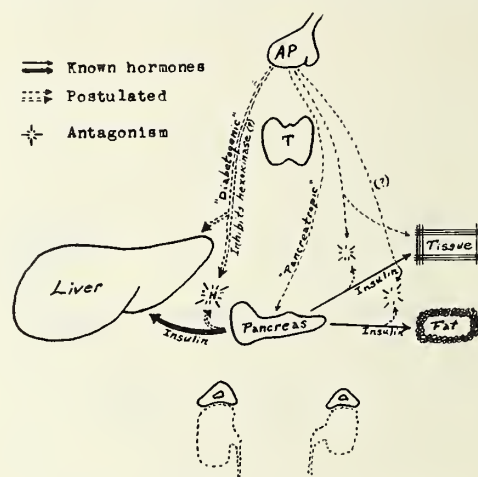


Fig. 4. Influence of the Anterior Pituitary.

ation of diabetes. Acromegaly and gigantism, which are manifestations of anterior pituitary hyperfunction, are accompanied by diminished carbohydrate tolerance; about 12 per cent of acromegals have true diabetes⁵ and 36 per cent have glycosuria. Quite the opposite is found in Simmond's disease, or hypopituitarism, in which hypoglycemia and a "flat" glucose tolerance curve are the role.

The foregoing laboratory and clinical data indicate that diabetes mellitus may follow a temporary state of hyperpituitarism, such as is known to occur at periods of active growth and at the menopause. These periods coincide with the peak incidence of diabetes mellitus onset. The frequent association of obesity with diabetes in middle-aged individuals and of overweight with early diabetes in juveniles further suggests a pituitary influence.

Influence of the Adrenal Cortex

Although adrenalin in the blood stream hastens release of liver glycogen as glucose, it does not contribute to the production of diabetes. Continued administration of adrenalin has not been known to cause permanent diabetes, nor does ablation of the adrenal medullae ameliorate diabetes in depancreatized animals.⁶ With this we can dismiss the adrenal medulla as a factor in our discussion.

Close on the heels of Houssay's published reports of pituitary effects, Long and Lukens⁷ reached similar conclusions in experiments involving the adrenals. In cats with pancreatectomy diabetes there was also an amelioration of the diabetic state by removal of the adrenal cortex.

Carrying the experiment further, they found that severe diabetes could be reproduced in their

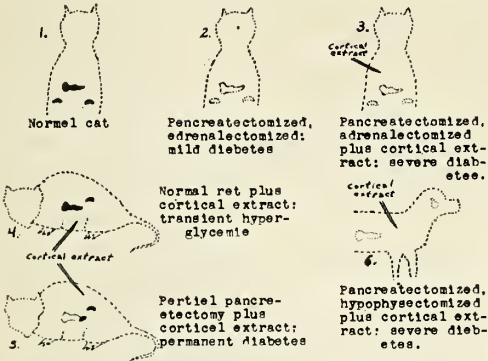


Fig. 4a. Adrenal cortex influence.

doubly operated animals by injection of cortical extract. In addition, the injection of cortical extract into "Houssay" (pancreatectomized-hypophysectomized) dogs resulted in an exacerbation of the diabetes. An attempt is made to depict this possible interrelationship in figure 5.

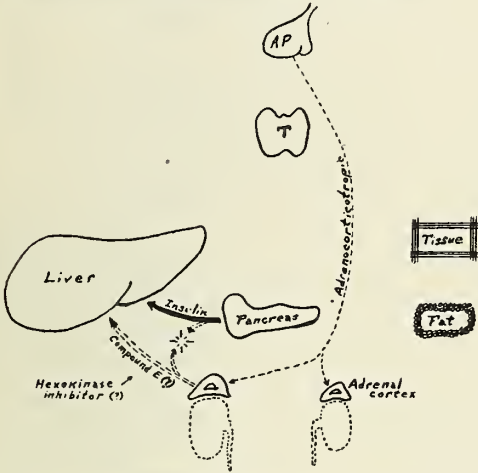


Fig. 5. Influence of the Adrenal Cortex.

Note in the illustration the adrenocorticotrophic hormone directed from the pituitary toward the adrenal cortex. It may be that some diabetogenic effect originating in the anterior pituitary resides primarily in the adrenal cortex.

A substance has been isolated from cortical extract, 11 dehydrocorticosterone 17 hydroxycorticosterone, which is known as "Compound E of Kendall." Daily injection of this material into rats produces glycosuria,⁸ and if the animals have previously been subtotally depancreatized, they develop permanent diabetes. Although the role of "Compound E" is as yet undetermined, it seems permissible to suspect it of some diabetogenic activity.

Clinical evidence of adrenal cortical involve-

ment parallels laboratory evidence. Patients with Cushing's disease (adrenal cortical hyperfunction) characteristically show impaired carbohydrate tolerance. In the antonymous disease, adrenal cortical hypofunction (Addison's disease), hypoglycemia is the rule. When a diabetic develops Addison's disease, the diabetes becomes less severe; when the Addison's disease is adequately treated with cortical extract, with desoxycorticosterone acetate or with "Compound E," the diabetes resumes its former severity. Recently the author was privileged to observe such a case at a nearby clinic.

Influence of the Thyroid Gland

Since true diabetes mellitus in man is aggravated by hyperthyroidism, patients, after thyroidectomy, return to approximately their former carbohydrate tolerance. Severe hyperthyroidism in the nondiabetic often produces impaired carbohydrate tolerance, even a little glycosuria. However, removal of a normal thyroid gland from a diabetic does not ameliorate the disease.

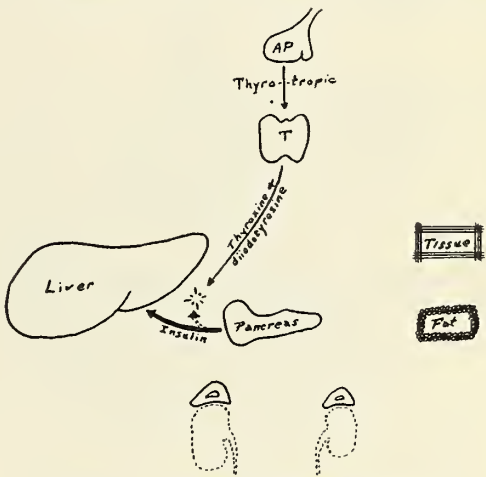


Fig. 6. Influence of the Thyroid Hormone.

Houssay reduced dogs to nearly a diabetic state by subtotal pancreatectomy. He then administered thyroid extract and produced a true diabetes mellitus with lesions of the islet cells. When insulin was administered along with thyroid extract, no diabetes developed. To demonstrate pituitary effect in connection with the thyroid, it was found that the hypoglycemia of hypophysectomized animals is alleviated by administration of thyroxin. From such ablation experiments¹⁰ it appears that any diabetogenic effect exerted by the thyroid is secondary to influence from the anterior pituitary.

Role of the Liver

No one has yet been able to assign the exact responsibility played by the liver in the etiology

of diabetes mellitus. In this remarkable organ many substances are altered, especially carbohydrate, protein and fat. It may be that some of the hormones concerned in diabetes are ultimately destroyed in the liver. Glomset¹¹ has a series of cases in whom cirrhosis has produced hyperglycemia with glycosuria and typical diabetic-type glucose tolerance curves. In these cases the diabetic state subsides with improvement in liver function. Since these patients are somewhat resistant to insulin, they are treated by a high protein, moderately high carbohydrate diet plus the customary vitamin supplements used in the management of cirrhosis. The use of insulin seems to have neither a beneficial nor a deleterious effect.

The multifarious nature of the liver defies significant study, by present methods, of its part in the diabetic state. Apparently dysfunction in the liver can produce hyperglycemia just as does pancreatic islet hypofunction or hyperfunction of the anterior pituitary, the adrenal cortex, or the thyroid gland.

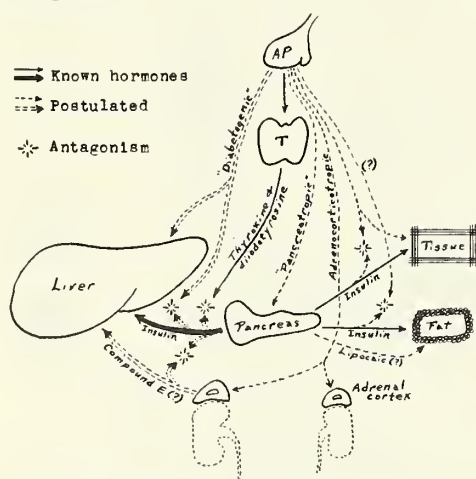


Fig. 7. Composite of effects, known and postulated, involved in the etiology of diabetes mellitus.

Alloxan

In 1943 Dunn¹² created interest in alloxan by injecting it intravenously into rabbits and producing hyperglycemia. This was subsequently proved to be a permanent diabetes resulting from islet cell destruction. Despite this similarity to human diabetes, no one has been able to relate alloxan to human diabetes, nor is alloxan known to occur in the human body. However, it is closely allied to uric acid, which is a constant constituent of human tissues and plasma.

The usefulness of alloxan to date has been confined to the production of diabetes in experimental animals. Clinically it has an extremely

limited use in the alleviation of hypoglycemia from metastatic islet cell carcinoma. The most

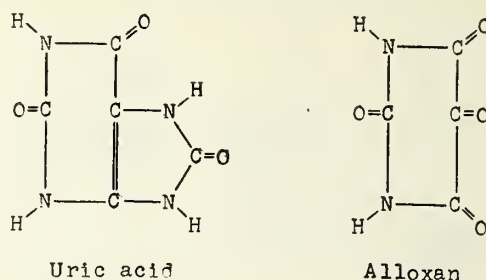


Fig. 8.

significant feature of the substance is the similarity of alloxan diabetes to pituitary diabetes.

Summary

As the search for a single diabetogenic factor progresses, interest has been diverted from one organ to another. The pancreas, anterior pituitary, adrenal cortex, thyroid and liver have had their day as the site where the primary defect lies in diabetes mellitus. Perhaps most investigators are in error when they think of the defect in terms of a single agent. Could such a substance account for the metabolic changes as well as the degenerative vascular manifestations so commonly seen in diabetics?

Paramount attention is still bound to the pancreas, for it cannot be denied that *the fundamental defect of diabetes is the failure of the pancreas to supply adequate insulin for the altered circumstances under which the organism is operating.* Degeneration of the islet cells is not an invariable accompaniment, but nonetheless is their capacity to produce insulin insufficient for the requirements of the body. One or more of three abnormalities is operating: (1) insulin secretion is subnormal, (2) body requirements for insulin are increased, or (3) insulin is rendered less effective by some agent. In the past decade the pendulum has swung toward the third possibility, and the search has centered upon the anterior pituitary and adrenal cortex. In reviewing the tremendous strides made since Housay's work on the pituitary in 1936, one cannot help but feel that research into the cause or causes of diabetes will soon be productive of important knowledge that will lead to greatly improved methods of treatment.

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FINDING THE UNDIAGNOSED DIABETIC

Edwin B. Winnett, M.D., Des Moines, and
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From the recent "Oxford Survey" done in Oxford, Mass., and other surveys the United States Public Health Service has demonstrated that there are over a million diabetics who are undiagnosed and whose symptoms are not severe enough to take them to their physicians. These people are being particularly sought out as their ultimate prognosis is extremely favorable. This bright outlook for them does require early detection so that they may avoid the serious complications of diabetes mellitus, by perhaps utilizing a sensible dietary regime, and avoiding overweight.

To ferret out this great unknown potential or subclinical diabetic population requires that all walks of life and all strata of society be scrutinized. Race, creed, religious or economic factors play no part as the disease affects all. As is well known, obese individuals are more prone to diabetes. Another large group of whom to be particularly suspicious consists of those who have diabetic relatives. As pointed out, the tendency of diabetes to skip a generation causes one to also probe into the history of the grandparents as well as the parents, aunts and uncles. It is hoped that women's organizations of all sorts will be exhorted to bring the nature of diabetic detection to their members because of the greater number of females who have the disease, particularly those overweight and those in or beyond the menopause.

It is planned to carry out blood sugar screening tests by a new five minute micro-blood sugar method with simultaneous urinalysis for sugar and attention to time in relation to the preceding meal. The equipment is still in the hands of the manufacturer but will be available within the next two or three months. This new quick method of blood sugar determination can be lik-

ened to the method of screening large groups of the population for tuberculosis by the small miniature chest x-ray films. While they are not diagnostic, they at least uncover suspicious chests and allow further diagnosis with the standard sized x-ray films. Many thousands of pulmonary lesions are detected by these small screening roentgenograms.

Unfortunately too many diabetics are discovered only after they have gone into coma. These persons should have been detected many months prior to coma because there must have been many symptoms and signs. A family who has had some information from its physician, newspaper, magazine, or radio would be more apt to recognize the earlier symptoms.

Fatigue, loss of weight, thirst, parasthenia of hands and feet, pruritus, polyuria, changes in vision, and polyphagia are all too familiar to you as physicians. To the lay public, however, these symptoms should be advertised so those who have any or all can recognize them as such and submit to examination. Only in such propaganda can the latent and undetected diabetic be diagnosed.

Any person showing even so much as a trace of urine sugar following a meal rich in carbohydrates should be considered diabetic. Then it resolves on the physician to determine by frequent blood sugars and/or a glucose tolerance test whether the individual has diabetes mellitus or not.

Many physicians throughout the state have shown their willingness to perform free urinalysis for sugar during National Diabetic Week. It is the hope of the state committee that more if not all the physicians will cooperate in such an undertaking. Patients or friends and relatives of patients could submit postcibal samples of urine, which would be voided at home, for analysis. This would save time and congestion in the physician's office.

In the diabetic exhibit at the annual meeting of the American Medical Association held in Chicago in June, 1948, it was shown that the mortality rate for diabetics first seen when a complication had occurred was three times the rate for diabetics first seen earlier and before impairments had developed. Always bear in mind a fact frequently overlooked, namely, that diabetes is eighth among the leading causes of death.

Simultaneously with the state and county drives the American Diabetic Association will carry on an intensive educational campaign directed first toward doctors' postgraduate courses. It will be directed toward the layman by radio, news-

papers and other publicity channels in addition to the "A.D.A. Forecast" (the Association's bi-monthly magazine which brings to the diabetic patient homespun articles on the disease by eminent authorities in the field). At the same time the Association will place in the hands of physicians over the country an authentic "Handbook of Therapy" containing the most recent information available.

As a first step in a full scale attack on the disease, each county medical society should appoint its committee on diabetes. The national committee is most anxious to assist each local committee in furthering its work. In order to be of concrete help to the local groups the national committee has prepared material called "Kits," containing information on diabetes for use by the physicians in their own towns. These kits contain programs for medical meetings, radio broadcasts, and spot radio announcements for use by city and county medical societies. It is hoped that at hospital staff meetings the subject of diabetes will be included in the program schedule. Committees on public relations and public information should plan meetings for instruction of laymen, including patients, their families, and all others interested.

The secretary of each state and county medical society should bring up the subject of diabetic detection at the next meeting. Committees should be appointed from each group to contact the local radio station for time, the local newspaper for space, and the various civic organizations in order to spread the thought for diabetic detection. For contents of the "Kit" and further information write to Howard F. Root, M.D., Chairman, Diabetic Detection Drive, 81 Bay Street Road, Boston, Mass.

WHAT CAUSES GAS?

Walter C. Alvarez, M.D., Rochester, Minn.

What causes flatulence? I often wish I knew; it is so common a complaint of many patients. I have been studying the problem in the laboratory and in the clinic for 35 years or more, and I have read everything that I could find in the medical, physiologic and veterinary literatures. Flatulence is a tremendous problem on many farms, as many of you who have lost valuable animals from bloating know. I can remember, as a boy, seeing my father's favorite driving horse bloat and die in a few minutes.

The Physiology of Flatulence

What is the physiology of flatulence? Why is

it that some persons have practically no gas in the bowel and no passage of flatus, while others are distressed much of the time? Some gas, of course, is formed in the bowel during the processes of digestion. Why doesn't it bother the healthy person? Because most of it is picked up quickly by the blood, carried to the lungs, and there excreted. It is hard to measure the basal metabolic rate of a cow because she keeps putting out so many cubic liters of gas, constantly being formed in the mass of food fermenting in her rumen and cecum.

Evidently then, those of us who are gassy must have some trouble with the normal absorption of gas from the bowel. I think this is more likely than that we have an excessive amount of gas formation. Many of us also who have excessive flatulence apparently swallow more air than others do. Apparently we are constantly swallowing air mixed with saliva. This has been well shown by surgeons who have found that if they make an intestinal obstruction in an animal much gas backs up above the region tied off. However, if first the esophagus is tied, very little gas appears.

There are three main gases in flatus: one is nitrogen, which comes from the air; the second is oxygen, and the third is carbon dioxide. The nitrogen is the troublemaker because it passes so slowly through animal tissues. Oxygen is not likely to cause trouble because it is fairly rapidly absorbed, and carbon dioxide is harmless because it goes out into the blood in a few minutes. Occasionally, as in the case of herbivorous animals, there is some methane in the bowel and perhaps a little hydrogen sulfide and hydrogen, but these gases usually are not important in man.

As you all know, in roentgenograms of the abdomen of adults there is rarely any sign of gas in the small bowel. There is much gas in the small bowel of infants, but why, I cannot say. Whatever gas there is in the adult abdomen is usually in the large bowel, perhaps because the absorption there is less rapid than in the small bowel or because the colon does not move its contents onward as quickly as the small bowel does. The colon is inclined to hold its contents in one place for hours at a time.

One of the commonest places for the accumulation of gas is in the trap at the top of the splenic flexure. Sometimes gas in this region presses on the stomach and makes the person feel like belching. Obviously in such cases no amount of belching will get the gas up. The only maneuver that will get gas out of the splenic flexure quickly is the assumption of the knee-chest position.

It is interesting to note that air swallowed while a person is chewing gum or eating a soufflé will go right through the small bowel, usually without pain, and will soon be passed. As one would expect, such flatus has no odor. Gas which is formed during the incomplete digestion of food or the digestion of food to which the person is allergic is likely to have a bad odor. Gas which is produced by sensitiveness to some food is likely to be associated with crampy pain. The victim feels as if gas were caught between two places in the bowel where there is a type of spasm which does not move along the bowel peristaltically. Pain is present until these areas of spasm start moving. Sometimes they can be made to start moving by the taking of a little food or the sipping of water which starts waves going down the bowel. Some of you who suffer from gas after dinner know that it feels as if there were a spasm somewhere along the bowel which will not move onward. When at last it starts moving, perhaps with a little gurgle, you get relief.

There is always a bubble at the top of the stomach, but this rarely contains more than 2 or 3 ounces of gas. Only a few times in my life have I met a person who could swallow enough air to really distend the upper part of his stomach. I usually could give these persons some relief by having them pass a small stomach tube after supper, so that the air could whistle out. Then they were not disturbed in the early part of the night as the air was passed down the bowel.

What the Patient Means by "Gas." Whenever a patient complains of gas or flatulence, one must immediately make sure what he is talking about. Does he belch, and does he belch occasionally or repeatedly? Does he bloat, and how does he bloat? Does he pass flatus, and is the flatus foul? Does it come in one large amount or repeatedly in small amounts?

An Occasional Belch. Let us take up first, belching. An occasional belch or burp after the eating of a large meal is normal enough for many persons. All one has to do to hear this sort of thing is to go to a banquet somewhere. Sometimes the belching is brought about simply by the eating of too much food, which overdistends the stomach and causes waves to run up the esophagus as well as down the bowel.

Air Swallowing with Long-Continued Belching. There is another type of belching which is repeated for minutes or for an hour or more. This, I think, is always a pure neurosis, or even part of a psychosis, and it is often due to panicky fear. Such belching can be treated more

logically by a psychiatrist than by a gastro-enterologist. It should not be treated with a diet or with atropine because it is not due to indigestion. Often it starts when the patient wakes at night with an extrasystole which frightens him and makes him think that he has heart disease or some equally serious ailment. Persons with this habit must be studied psychologically. The physician must find out what they are afraid of and why they are afraid, and must then try to drive away the fear. One must try to get them to stop the belching by will power.

Years ago in my office in San Francisco I had a big mirror back of where I sat facing the screen of my roentgenoscope. When I had a good belcher, one who could belch to order, I would take him in there and show him that every time he belched he took a big mouthful of air, with it distended his esophagus, and then emptied it again. This air stopped at the cardia and practically never got through into the stomach. Usually this demonstration was enough to convince the patient that I was right in my diagnosis, and often he "sat on the lid" and stopped his bad habit.

Bloating. The next question is, is the patient bloating? Here again one must remember there are several types of bloaters. There is a type who bloats almost instantly after taking a glass of pop or even a glass of ice water. These persons can be seen with the roentgen rays to have the bowel full of gas. I am sure it must come from the blood in the arteries. Evidently there is a reversal of the mechanism which normally takes gas out of the bowel. One can observe the same phenomenon right after a patient has a catheter passed up through the ureter. The first film will show the small bowel empty and the second one will show it full of gas. As Oppenheimer has shown, this filling of the bowel with gas can take place in a few seconds. Persons who show this type of sudden bloating are usually overly sensitive and reactive. Their knee jerks are likely to be greatly exaggerated and the reflexes in the bowel are probably just as active.

Another type of bloating can be due to the eating of some food, such as eggs or milk, to which the patient is allergically sensitive. This often is associated with considerable distress and the gas has to be passed before the patient can get relief. Usually enemas will not give much relief because most of the gas is in the small bowel.

There is another type of bloating which is due to constipation. In some persons, whenever there

is a large plug of feces in the lower part of the colon, gas tends to form above it and around it in the rectum. Eventually back pressure running up to the duodenum may produce a feeling of hunger distress in the epigastrium which can be helped or relieved by the taking of food. After a while there may be bloating. The best way for these persons to help themselves is to take a daily enema of isotonic solution of sodium chloride. Then they may have no further trouble.

Curiously, in these cases the patient can often tell in a few minutes when material is stagnating in the colon. He may have had two or three bowel movements during the day but he will have suspected that all together the amount of excrement passed was not enough. He will keep passing a little flatus every few minutes until he takes an enema and cleans out the lower half of the colon; then instantly he will be free. That will be the end of the gas formation. This sort of thing is probably most likely to occur in the case of a person with the hypersensitive mucus-forming type of colon.

A curious type of bloating takes place in some persons when they take a nap in the afternoon. They will wake full of gas which may cause pain. Other persons will bloat right after eating, before they have time to react to any specific quality of the food, such as indigestibility or a hurtful allergy. The reaction would seem to be reflex and due to distention of the stomach.

There is still another type of bloating. That is the hysterical type seen in persons who have no gas in the bowel. It is easy to recognize this type from the history. The story usually is that the bloating comes up slowly during the day and then goes down at night, always *without the passing of flatus*. These people often have no indigestion and they never pass flatus. All one has to do is to have a roentgenogram made of the abdomen while they are bloated and it will be seen that there is no excess of gas anywhere in the bowel. In these persons the bloating appears to be due largely to the assumption of a lordotic posture with the abdominal contents pushed forward. Pseudocyesis or hysterical pseudopregnancy is apparently produced in the same way. Some of the women with pseudobloating complain of so much pain that they are thought to have intestinal obstruction. Many of them are operated on time and time again without receiving any relief.

To expose the nature of such bloating all one has to do is to place the patient on her side and double her up so that her knees come up near her chin. Usually, while in that position the

bloating will be gone. One can also give an anesthetic, or even an injection of morphine or an emetic and the abdomen will suddenly go flat without the passage of any flatus. In most of these cases the patient is a neurotic woman who has some cause for sexual unhappiness.

Flatus. Another, and one of the best signs of true flatulence, is the passage of much flatus. As already noted, if this has no odor it is probably nitrogen left over from air, or it is gas ejected from the blood into the bowel. When, in the case of a constipated person, small amounts of flatus keep coming away, the gas appears to be ejected into the rectum because it stops forming the minute the rectum is emptied by an enema.

Clinical Causes of Flatulence

Anything which interferes with either the circulation of the bowel, the patency of the liver or the efficiency of the lung can produce flatulence or abdominal distention. Many persons with hypertension or with a failing heart complain much of flatulence, and the person with pneumonia often suffers greatly from a much distended abdomen. Persons with asthma and emphysema sometimes have considerable trouble with flatulence.

Curiously, gallbladder disease is commonly associated with flatulence. The typical story is that of a stout woman of 40 or 50 years who rushes home from a party, frantic to get her girdle off.

Many stout, healthy looking persons who eat too much have much foul flatus which appears to be due to their habit of overwhelming the digestive powers of the intestinal tube with too much food. As everyone knows, there are some foods which are particularly flatulent. Beans and onions are notorious, but years ago when Hinshaw and I asked 500 patients what foods gave them gas we found that they complained most often of cabbage, raw apples and radishes; then, in order, came beans, cucumbers, milk, "rich foods," chocolate, coffee, peanuts and eggs. Before treating a person for true flatulence it is well either to try an elimination diet or to ask the patient to keep a diary to see, if possible, what the offending foods are.

Quite a few of the patients with a duodenal ulcer complain of a feeling of gas in the epigastrium, and it may be that some of them have gas trapped in some segment of the upper part of the bowel. This gas is made to move onward by the taking of food. Of course, sudden bloating with colicky pain and some prostration will make one think of strangulation of a segment of bowel in some internal or external hernia.

Persons suffering with diarrhea often complain of true flatulence. This can be marked in cases of sprue. Sometimes, if one stops the diarrhea with opiates or bismuth, the patient will get so much gas that he will prefer to keep the diarrhea.

One must always be worried about the old man or old woman who, suddenly, for the first time in his or her life, has flatulence with a lot of borborygmus. If an elderly man begins to have loud gurgling which can be heard across the room, it is likely to be due to a carcinoma of the colon. Sometimes just before the gurgle, one can see a short segment of bowel rise and then the diagnosis is made. In some of these cases the obstruction is due to a carcinoid tumor in the terminal segment of ileum.

Younger persons with a tendency to mucous colics will sometimes, because of emotion, fill up with gas, as when they go out to dinner or go out with a member of the opposite sex. When the person goes to the toilet he or she will pass, besides the gas, a little mucoid watery fluid; there rarely will be any fecal material. The feces will be held back in the right side of the colon by spasm. Persons with this type of mucous colic can often be greatly helped by the taking of a little codeine before going out on a party.

Some persons become flatulent if they take too much roughage. These persons can be helped with a smooth diet. My feeling today is that more important than a smooth diet is often a diet which does not contain any food to which the patient is allergically sensitive. Such foods have to be discovered by observation.

It is curious that some persons with hemorrhoids have a great deal of gas which appears to form in the rectum. Some of these persons are cured by hemorrhoidectomy.

Some persons wake at 5 or 6 a. m. and have to go to the toilet because of gas and perhaps a diarrheic bowel movement. If these persons will go without supper for a night or two they can find out whether their trouble is due to the eating of any food. If it is, a little experimenting will soon show them which food it is.

"Gas Pains" Due to Operations

Some of you may ask, what is the mechanism of the "gas pains" that follow operations? I suspect they are due largely to a failure of waves to move smoothly down the bowel. Years ago, when I got Dr. Mendes Ferreira to roentgenograph the abdomen of a number of persons having postoperative "gas pains," we could see no excess gas in any of the films. It seemed, therefore, as if the term "gas pains" must often be a misnomer.

Treatment

Are there any drugs that are really good for the treatment of flatulence? I don't know of any. The pharmacopoeia lists a number of carminatives which are supposed to relieve flatulence, the best known perhaps is peppermint. A good form in which to use it is *crème de menthe*. Alcohol sometimes works, and a drink of whiskey may start gas to moving. In bad cases a teaspoonful or two of paregoric or tincture of camphorated opium may help. In many cases the patient can start up peristalsis by walking around for a while and perhaps rubbing the abdomen.

Obviously, in the treatment of flatulence the most important thing is to find out what the patient means when he says he has "gas." As I have pointed out, in many cases the trouble is not due to indigestion but to pure nervousness, the swallowing of air, or constipation. In cases of hysteria there is no gas at all.

Summary

Much of the gas in the bowel is swallowed air. Much appears to come out suddenly from the blood. Some is formed during digestion. In the healthy person gas formed in the bowel is rapidly picked up by the blood and excreted by the lungs.

Some persons swallow more air than others do. Very few swallow enough to distend the stomach.

The three main gases in the bowel are nitrogen, oxygen and carbon dioxide. The first causes the most distress because it is absorbed so slowly. Oxygen and carbon dioxide are absorbed rapidly.

In the adult the small bowel rarely contains much gas.

Gas or swallowed air goes through the bowel rapidly and painlessly if there is no spasm anywhere. There is more likely to be spasm associated with the gas which is produced by food allergy.

The physician must always make sure what the patient means by "gas." Does he belch, or bloat or pass gas? Belching often repeated is a neurosis associated with the swallowing of air. The air gets to the cardia and comes up again.

Bloating may be sudden, as after a drink of water, due to an overly sensitive bowel. There is also a pseudobloating, hysterical in nature, and not due to gas. True bloating can be due to eating, to being hurt physically, to taking a nap, or to constipation. An excess of flatus may be due to swallowing air, to indigestion, to constipation, or to eating more food than the bowel

can handle, or to eating certain gas making foods.

Flatulence can be produced by any disease that interferes with the circulation or with the functions of the liver or the lungs. It is seen with cholecystitis, diarrheas, duodenal ulcer, constipation, hemorrhoids, intestinal obstruction, mucous colics, and the eating of a rough or flatulent diet.

The treatment of flatulence is often unsatisfactory. Drugs frequently fail. A patient may be helped with a smooth diet, a light diet, or diet without foods to which the person is allergically sensitive. Some persons are relieved if they keep the colon clean with enemas.

THE PATHOLOGY OF BONE TUMORS

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In order to describe bone tumors clearly, a classification is necessary. The one presented is simplified yet includes all new growths seen in bone. It is essentially histologic and is based upon the type of tissue included in osseous and cartilaginous structures. It is subject to anyone's revision.

Bone tumors are equally distributed between the sexes with the highest incidence in the second decade.

Osteoma: This consists of an overgrowth of bone which usually is exostotic although it may grow inward and compress the bone substance. There is a tendency to multiplicity and the sites of development, which are near the epiphysis, are in the extremities, the cranial vault and the ribs. They extend down the metaphysis and cease growing at maturity. They rarely undergo

malignant change and cause disability only by compression of adjacent blood vessels, nerves or organs, or by impairment of mechanical function. Some, dependent upon their location, may be subject to repeated trauma. They consist of bone which may be spongy or medullary if they contain marrow, or compact and eburnated if not. There may be a variable amount of cartilage and fibrous tissue. It is necessary to decalcify them for microscopic study. The effect of the acid distorts the cellular details. The section shows trabeculae of normal acidophilic bone, with cells and lacunae. There may or may not be marrow—usually not. At the point of junction with the normal bone, there is no change. The periosteum is unaltered and intact.

Osteoid osteoma is an atypical nonmalignant tumor of bone, tending to involve males predominantly in the first and second decades and to affect the bones of the lower limbs—femur and tibia. It is usually less than a centimeter in diameter. The lesion is well demarcated from the bone proper, consisting of a firm nidus. There are different proportions of new bone, osteoid and trabeculae with well vascularized connective tissue.

Exostosis: This is an overgrowth of normal bone extending outward from the surface of the bone whence it arises. Both macroscopically and microscopically it shows cancellous bone without marrow. One form, known as exostosis cartilaginea, is seen frequently at the interphalangeal joints of the hands arising from the cartilaginous part of the diaphysoepiphyseal junction. There is a layer of cartilage developing beneath the periosteum of the bone. There is a form known as the periosteal or fibrous osteoma which is

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	Non-malignant	Malignant
I. Tumors arising from bone	1. Osteoma (osteoid form) 2. Exostosis 3. Enostosis	Osteogenic Sarcoma 1. Periosteal 2. Fibrosarcoma 3. Sclerosing 4. Telangiectatic 5. Parosteal
II. Tumors arising from cartilage	1. Chondroma	1. Chondrosarcoma
III. Tumors arising from non-osseous tissues		
a. Blood vessels	1. Angioma	1. Hemangio-endothelioma
b. Nerves	1. Perineural fibroma	1. Perineural fibrosarcoma
c. Fat		2. Neurogenic sarcoma
d. Blood elements		1. Liposarcoma
		1. Myeloma
		a. Plasma cell
		b. Erythroblastic
		2. Ewing's tumor
		3. Chloroma
		4. Leukemia, myeloid
e. Lymphoid elements		1. Leukemia
		2. Lymphosarcoma
		3. Hodgkin's disease
		4. Reticulum cell sarcoma
f. Miscellaneous	1. Giant cell tumor 2. Myxoma 3. Fibroma Epulis 4. Adamantinoma	1. Malignant giant cell tumor 2. Myxosarcoma
IV. Metastases from other primary neoplasms		

seen on the flat bones of the skull. In the tendons and fascias, these tumors represent excessive growth of tuberosities and bony crests.

Enostosis: It is similar to the above but grows into the bone substance.

Osteogenic Sarcomas: These constitute some of the most interesting new growths of the human body. They are highly malignant, are obscure in origin, grow rapidly, and metastasize early. They make up about 1 per cent of malignant tumors and their curability rate is around 5 per cent. They usually develop in the long bones, especially the femur and the tibia, of persons in the first two decades. They involve one end of a shaft and part of the adjacent epiphysis, originate in the interior of affected regions, penetrate the cortex and present outside of the periosteum. The amount of ossification varies. On x-ray, the radiologists are quite competent in diagnosing the lesion when bone is produced. If it is a soft tissue shadow, dependence is placed upon the pathologic changes. It is wise always to make formal biopsies on all rapidly growing lesions of bones.

The term "osteogenic" as applied to malignant tumors of bone does not necessarily mean "bone forming," for in some of them there is practically nothing but bone destruction. The meaning conveyed by "osteogenic" is that the new growths are derived from embryonal forms of cells which, if matured normally, would produce bone.

The *periosteal osteogenic sarcoma* arises from the corticoperiosteal tissue and produces true bone. It usually develops in the long bones of the extremities and nearly always near the ends of the shaft. The growth is rapid and it extends around the shaft as a dense spindle formed enlargement. It may and often does penetrate into the bone with the formation of a smaller mass within the spongy bone or marrow cavity. Bone formation is moderate and the lines radiate out from the shaft. The tumor arises from the deeper layers of the periosteum. There are multiple metastases in the periosteum of many other bones. Histologically there is a compact mass of fibrous, osteoid, and/or osseous tissue with no specific pattern, marked cellularity of varied size, bizarre nuclear forms, hyperchromatism, tumor giant cells and abundant vascular slits. Because of the increased vascularization necrosis is not pronounced. Blood vessel invasion is readily seen. There is also extension to adjacent tissues.

The *periosteal fibrosarcoma* should be clearly distinguished from the above tumor as it is usu-

ally less malignant, unless it is quite anaplastic. There are no bone forming potentialities in the primary site, or in the metastases. The interior of the shafts of long bones is the most common point of origin. By continuous growth, it penetrates the cortex. It arises outside of the bone in the periosteum or adjacent fibrous tissue and may cause absorption and later invasion of bone, thus being mistaken for primary bone tumors. It extends along the periosteum and usually does not encircle the bone. It is firm, gray or white, is unencapsulated and may invade the bone or the adjacent structures. On microscopic study there is pronounced overgrowth of compact atypical fibrous cells which vary in size, shape, and staining reaction. There is a moderate amount of intercellular substance. No bone or osteoid tissue is seen. Some tumor giant cells are present in the more malignant form.

The *sclerosing osteogenic sarcoma* is not common. It is central more often than peripheral and is characterized by slow growth with the formation of new bone of extreme density in the neoplasm. It invades the pre-existing bone, whose shaft may be much enlarged, to form a spindle form swelling. Despite the decreased rate of growth, metastasis is frequent. Microscopically there are all of the components of malignancy but with a greater proportion of osteoid and osseous tissue.

The "*telangiectatic*" *osteogenic sarcoma* is characteristic. There is some question as to its exact origin. It may belong with the tumors of the blood vessels of bone as a cavernous angiosarcoma. It is very malignant and destructive. Little bone is produced and this is atypical. It usually originates in the central region although it may arise anywhere. There is such rapid invasion that the periosteum does not form a new layer of bone and still there is a tendency for the new growth to remain circumscribed. Microscopically the cells are usually rounded or polyhedral, vary in size and contain many hyperchromatic nuclei. Foreign body giant cells are numerous. There are many large vascular spaces whence hemorrhage is not infrequent (bone aneurysms, so-called, through which blood flows readily).

The *parosteal osteogenic sarcoma* arises from the fibrous capsules of joints and deep fascias. It often produces bone and cartilage and it may be intimately attached to the bone. Microscopically, in addition to the histologic evidence of sarcoma already described for bone, there are islands of atypical cartilage with many distorted cells and hyperchromatic nuclei.

There is no indication for including the type of medullary osteogenic sarcoma formerly carried in all classifications.

The *chondroma* may be single or multiple. It often develops in the phalanges of the hand, less frequently in the bones of the foot and pelvis and in the scapula. There is a tendency toward bilaterality. It appears in the interior of the bone (digit) as an enchondroma. *Ecchondromata* are rare. There is swelling of the bone either round or spindle shaped which on section shows firm, homogeneous light gray cartilage with or without bone trabeculae. Microscopically there is an irregular arrangement of cartilage with some osteoid or osseous tissue. This is the basis of the use of *osteochondroma* by some writers. Although not malignant, these tumors are apt to recur. The phalangeal chondroma may be histologically malignant but clinically benign.

The *chondrosarcoma* may arise as the result of sarcomatous change of exostoses cartilaginea and chondromas, or they may be derived from pre-existing normal cartilage or from the remnants of cartilage displaced by rickets. They are about half as common as osteosarcomas.

They are usually seen in the long bones of the extremities, the innominate bones, sometimes in the maxilla, the vertebral bodies or the ribs, and are most frequent in persons in the third or fourth decades. The origin is central, in the ends of the shaft some distance from the epiphyseal line. They erode the cancellous bone and cortex from within and thus produce an expansile swelling of the shaft. There may or may not be periosteal new bone formation. These new growths proliferate more rapidly than osteogenic sarcomas yet they have a better prognosis because they are disseminated later. There is a marked tendency toward massive venous invasion. Metastases are to the regional lymph nodes, liver, lungs, pleura and heart. The distant growths (lungs or heart) are cartilaginous and may rarely be partially ossified or calcified.

In the gross, the tumors are bulky and often reach large dimensions. They may be circumscribed, multilobed and translucent, and often contain characteristic opaque calcific deposits or myxomatous material. They invade the adjacent tissues readily. There are many structural varieties microscopically, and the degree of histologic malignancy varies. Some resemble normal hyalin cartilage; others are cellular and show foci of mucinous and cystic degeneration. Many show typical scanty matrix with abundance of abnormal cells in incomplete lacunae. There may be areas of calcification and other foci which contain nu-

merous multinucleated giant cells. In some there may be no cartilaginous material at all with only peculiar polyhedral or epithelioid cells in a loose matrix.

The *angioma* is a tumor which usually arises from the blood vessels rather than the lymph vessels. It is seen most commonly in the bodies of the vertebrae, usually in the lower thoracic or lumbar regions. On x-ray, it is quite characteristic. There is destruction of the marrow elements with some encroachment upon the cancellous portion. Delimitation is poor and the whole structure is soft and red. On microscopic examination, the loose fibrous stroma with wide blood filled spaces and endothelial lining is found to be characteristic. It is a rare tumor.

Hemangio-endothelioma is more properly a tumor of blood vessels and is preferably included in that category. However, there is a tendency for them to originate in bone, especially of the hands and feet. They are not common, vary in degree of malignancy, are prone to recur unless completely excised, invade adjacent tissues and metastasize late. They are bulky growths, produce expansile swellings, break through the shafts readily and extend into the adjacent soft tissues. In the gross, the tumor is undemarcated, firm, red and gray, and contains many small foci from which blood oozes slowly. Microscopically there is a mass of loosely arranged fibrous tissue containing many variable sized vascular spaces, some of which are compressed and others patent. The lining endothelial cells have proliferated extensively, vary somewhat in size, shape and staining reaction but show no pronounced cellular activity. This neoplasm is much more apt to recur and to metastasize than is indicated by its histologic structure.

The *perineural fibroma and fibrosarcoma and neurogenic sarcoma* are mentioned here in order to make the reader realize that they may originate within the nerves supplying bones as well as those in any part of the body. They are prone to originate in the humerus or the femur and may be the cause of pathologic fracture due to destruction of bone substance by compression. Because the perineural fibrosarcoma is not too malignant histologically, it offers difficulty in diagnosis. The gross and microscopic characteristics are those of similar neoplasms elsewhere, with allowance for site of development.

The *liposarcoma* is a rare tumor found in bone, usually of the extremities and less commonly in the vertebral bodies and pelvis. It may develop in residual fetal fat. In the gross it is soft grayish yellow and often is lobulated. There is

little resemblance to fat as the cells are compact, stellate and form a meshlike pattern. The special stain may show minute fat globules in the cytoplasm. Many cells are atypical and there are many bizarre nuclear forms as well as variations in staining reaction. Metastases to other bones, regional lymph nodes and lungs are early.

The *myeloma* is actually a tumor of the blood elements. It attacks primarily the red marrow and is seen particularly in the ribs and sternum, somewhat less frequently in vertebral bodies, skull, femur, pelvic bones and humerus. The tumor consists of nodules of varying size which are soft or firm, translucent or opaque, gray or red and variably vascularized. Microscopically the essential cells are of plasma type, myeloblasts or erythroblasts. There may be various degrees of anaplasia of some fundamental cell type in a delicate reticulum. There is invasion and destruction of the adjacent bone. This may result in a pathologic fracture which may be the first indication of the underlying disease. The whole tumor may consist of a single mass in one large bone. Distant metastases to other bones occur early. Spread may also occur to the liver, the spleen, the kidney, the lung and to other viscera, but rarely to lymph nodes.

The origin is usually multicentric, although it may remain in a single bone for many months or years. The plasma cell variety is the most common. There are almost pathognomonic changes of histologic form in the kidneys: (1) accumulations of protein-like material in lumens of renal tubules; (2) atrophy of lining cells of tubules; (3) multi-nucleated giant cells around the protein substance; (4) calcium deposits.

Ewing's tumor or *sarcoma of bone*, is sometimes known as an *endothelial myeloma*—hence its description under blood elements has been a confusing new growth ever since its original description. Fortunately, it is not common. The lesion develops in the shafts of long bones in children and young adults. In the x-ray, there is a fusiform destructive enlargement of the shaft. Some aid in the clinical diagnosis may be found in the following: pain, swelling, fever, leukocytosis, anemia, and an increased sedimentation rate. Its origin is thought to be the undifferentiated mesenchyme of the intracortical connective tissue. Usually a single bone (long and innominate bones or those of the trunk and the calvarium) is affected. Less commonly several are involved. Metastases are variable but are almost certain to be seen at autopsy, especially to the lungs and to other bones. In the gross, the neoplasm is more extensive than the

appearance conveyed by x-ray. The tissue is firm and white or spongy, red and cystic with foci of yellow necrosis. There is invasion of adjacent tissues and compression of organs. By histologic study it is found that the cells have a tubular or pseudorosette arrangement. There is minimal cytoplasm. The nuclei are ovoid or round, contain one or two nucleoli and are deeply stained. The cytoplasm is granular. Cell outlines are indistinct. There are areas of hemorrhage, degeneration and necrosis. Reticulum fibers are variable. It is necessary to differentiate from an adrenal neuroblastoma, a metastatic anaplastic carcinoma—especially from the lung, and a lymphosarcoma.

The *chloroma* or *chlormyeloma* resembles the myeloma closely. The neoplastic cells arise in the bone marrow and invade the remainder of the medulla and the cortex. The new growth is pale green, abundant and soft. In the microscopic the cells have a granular cytoplasm either neutral or acidophilic in color. It may be a variant of myeloid leukemia. Young children are frequently affected and the bones of the cranial vault are often involved. There may be metastases to lymph nodes and other organs.

The *leukemias* of myeloid type originating in the bone marrow are best described under the diseases of blood. It suffices to realize that the bones, especially the long ones which normally do not produce blood cells, are involved in these diseases. There is no bone destruction, hence no x-ray changes, and no signs or symptoms referable to the skeletal system.

The new growths originating in the lymphoid elements constitute the *leukemias* which invade the marrow and have similar results to those ascribed to leukemias of myeloid form. The *lymphosarcoma* will often produce a moderate amount of erosion. The spine, pelvis, skull, femur, humerus, tibia, scapula, mandible and ribs are involved. *Hodgkin's disease* will invade the cortex and cause an expansile swelling. It may be a solitary lesion in the bone. The *reticulum cell sarcoma* may be primary in the bone and may arise at any age in either the long or flat bones. The medullary cavity is invaded by pinkish-gray granular tissue which, if abundant, will cause bone destruction and soft tissue involvement. Areas of necrosis are common. By microscopic study, the characteristic cell is round or oval, large, and has a nucleus up to twice the size of a lymphocyte, which is round to oval and frequently indented or lobulated. The chromatin is amphophilic, finely divided and scattered, and abundant in ratio to the nucleus.

Binucleate forms occur but true tumor giant cells do not. Mitotic figures are common. The stroma consists of delicate strands or dense bundles of collagen. There is often complete destruction of bone and obliteration of marrow.

The *giant cell tumor of bone* is seen in young adults and affects the spongy ends of long bones, and the flat ones of the face and the mandible. The tumor consists of soft, friable, dark red tissue which replaces bone and invades soft tissue. There is excellent vascularity. Microscopically the stroma has an abundance of cellular stroma with many blood vessels and a large number of typical multinucleated giant cells. These latter have a rich cytoplasm and contain a few or many fairly dense nuclei. These new growths rarely become malignant but when they do the degree depends upon the stromal cells. There is a marked tendency to invasiveness and to recurrence.

The *myxosarcoma* is merely mentioned. It probably does not exist as a pure type. In some very embryonic osteogenic or chondrosarcomas, the greater part of the new growth may be this type of structure. The myxoma is rare as a pure tumor and arises in the periosteum. There is a tendency to recur after removal.

The *fibroma* is not common, affects the bones of the face, arises in the periosteum and may become cystic, calcified and/or ossified. Grossly and microscopically it is quite characteristic. The *epulis* is a specific form of fibroma found in the tooth sockets or jaw. If there is an abundance of multinucleated giant cells, it is shown as a *giant cell epulis*.

The *adamantinoma* is a tumor which is usually seen in the jaws, especially in the mandible and rarely in the distal end of the tibia. In the former sites it originates from misplaced cells of the dental groove or from the enamel organ. In the latter, it is unexplained. These tumors may be very hard, solid, firm, spongy or cystic. Microscopically there is a rather compact fibrous stroma in which there are islands of typical cells arranged in a pseudo-acinar formation. The outstanding feature is the stellate cell. Occasionally, prickle cells are seen. Cysts are common. It is questionable whether these neoplasms ever become malignant.

It is wise to mention *Paget's disease of bone* in order to confirm the conclusion that sarcomas are prone to arise in bones so affected.

The bones are the frequent sites of metastases from tumors in other organs being surpassed only by the lungs and the liver. Direct invasion

is variable and is usually recognized early. The periosteum acts as an excellent barrier in most instances. In order of frequency of sites which spread to bone, the organs and regions are as follows: carcinoma of (1) breast, (2) prostate, (3) thyroid, (4) kidney, (5) mouth and pharynx-squamous cell, (6) esophagus, (7) stomach, (8) colon and rectum, (9) pancreas, (10) uterus, (11) lungs, (12) urinary bladder, (13) adrenal, (14) neuroblastoma of adrenal, and (15) sarcomas of bone and soft tissues.

The bones involved are the ribs, vertebral bodies, pelvis, femur, sacrum, skull, humerus and tibia.

The metastases are either nodular or diffuse. Usually they are associated with much destruction of bone but rarely are osteoplastic. Microscopically the cells are either characteristic of the site of origin or so undifferentiated as to preclude any conclusion concerning location of the primary tumor.

The pathologic basis for treatment will be determined on the objective of curability with least impairment of function. The majority of bone tumors are seen in the extremities. This makes surgical excision easier but at the same time results in more pronounced deformity. Radiation, since it can affect no organs, may also be given in large dosages.

The osteoma rarely becomes malignant. Where readily operable, it should be excised even if not causing compression symptoms. If the operative interference would be difficult, it is better let alone. On the other hand, those osteomas which are causing compression of nerves, arteries or veins, or if impairing complete function of joints, should be excised. Exostoses and enostoses are preferably removed surgically. None of these respond to x-ray.

Osteosarcomas should be excised as soon as the diagnosis has been established by x-ray, and/or biopsy, and, provided there is no evidence of metastases to the lungs, the liver or other organs. Even then the curability rate is low because blood vessel invasion occurs early. It is wise to amputate high above the lesion. Excision of regional lymph nodes is recommended. Preoperative x-ray therapy is not indicated. There is no great danger in a formal biopsy. Aspiration biopsy, if successful, may result in sufficient tissue to confirm or make the diagnosis. Postoperative radiation of the lungs is indicated only if there are metastases in them. Likewise, local irradiation should be instituted in those cases in which there is some question of the neoplasm's invasion of the adjacent soft tissues. It should be recalled that

there is a marked tendency for these new growths to extend along fascial planes. Although the degree of variation is slight, it is well to recall the range of increasing malignancy of these sarcomas of bone. It is as follows: (1) parosteal; (2) sclerosing; (3) fibrosarcoma; (4) periosteal; (5) and the most malignant, telangiectatic.

The chondroma shows no response to the x-ray, is apt to become malignant, and will frequently recur after removal; hence it must be widely excised. The chondrosarcoma is somewhat less malignant than the osteosarcomas. It must be treated surgically and local irradiation is indicated after the amputation. Regional lymph nodes should be dissected out. Metastases occur late and are somewhat responsive to irradiation.

The hemangioma may be irradiated but the results are not good. Neither is an attempt at curettement or excision. The hemangio-endothelioma is resistant to irradiation and surgical excision should be radical in order to guard against widespread extension. There is little tendency to metastasize; therefore excision of lymph nodes regionally is not necessary.

The perineural fibroma and fibrosarcoma and the neurogenic sarcoma must all be treated by excision (amputation). They are all very radio-resistant as are metastases which occur early.

The liposarcoma is highly malignant and does not respond to irradiation. Excision (amputation) is unsuccessful. Metastases occur early, are widespread and are resistant to treatment.

The myeloma, the chloroma and the myeloid and the lymphoid leukemias, the lymphosarcoma and the reticulum cell sarcoma, Ewing's tumor, are all radiosensitive. There is little basis for the surgical treatment of any of these lesions in bone. Occasionally, a solitary Hodgkin's nodule involves a bone. If accessible, it is preferable to excise it surgically. Particular attention must be paid to the possible presence of the disease in other organs or bones. The prognosis is poor, as these groups are uniformly fatal.

Much discussion has hinged around the treatment of giant cell tumors of bone. Surgical excision is not always feasible without causing disfigurement. In most cases it is wise to curette the soft tissue and follow it with irradiation. When they become malignant, which is rare, complete excision is necessary. Metastases are uncommon and regional lymph nodes are not involved.

The myxoma and the myxosarcoma should always be excised widely, and in the case of the latter the field should be irradiated.

The fibroma of epulis type should be excised. It rarely, if ever, recurs.

The adamantinoma is handled by complete excision of the involved portion of bone when in the jaw. In the tibia it must of course present a different problem. It rarely becomes malignant and usually does not recur. At the same time it is radioresistant. Each case must be judged individually.

Metastases in bones are treated almost solely by x-ray irradiation.

College of Medicine
State University of Iowa
CLINICOPATHOLOGIC
CONFERENCE
October 27, 1948

Summary of Clinical Record

This 90 year old white male was admitted to the University Hospitals on March 13, 1948, because of urinary retention of 12 hours duration. Two weeks before admission the patient had an episode which was characterized by paroxysms of violent coughing and productive of a tenacious white sputum. The dysuria, which had existed for one year, was aggravated and he complained of marked difficulty in emptying his bladder. These symptoms progressed and the patient had to be catheterized by his physician. The physician then had the patient sent to this hospital. There was no history of hemoptysis, chills, fever or night sweats.

Review of systems revealed shortness of breath on exertion and pedal edema for an unknown length of time. Mild anorexia, along with irregular bowel movements, had been noted for six months. The patient believed that he had lost approximately 30 pounds in the year before admission.

Physical examination revealed a well developed, poorly nourished, senile white male who appeared to be acutely ill. The patient was moderately alert although his memory was poor. There were ectropion and bilateral cataracts. Fundoscopic examination was not satisfactory. The skin and mucous membranes were markedly dehydrated. The anteroposterior diameter of the thorax was increased; excursions of the two sides of the chest were equal but limited. Percussion revealed a dull to flat note below the fifth intercostal space on the right. The breath sounds were decreased to absent in this area. Through-

out the remainder of the chest the percussion note was hyperresonant, the breath sounds were distant with a prolonged expiratory phase and scattered crepitant rales could be heard. The heart rate was 86 beats per minute with an occasional extrasystole. The blood pressure was 160/70. There was neither palpable overactivity nor thrills. Percussion revealed the heart borders to be within normal limits; the heart tones were distant and of good quality. No murmurs could be heard. The peripheral vessels were markedly sclerotic and tortuous. There was no evidence of venous engorgement. The abdomen was scaphoid and soft and the solid organs could not be palpated. There were no palpable masses. The stool was negative for occult blood. There was slight pretibial pitting edema and minimal sacral edema.

The patient was catheterized and 800 cc. of residual urine was withdrawn. An indwelling catheter was left in place. Urinalysis showed a trace of albumin and 5 to 7 white blood cells



Fig. 1

per high power microscope field. The examination of the blood showed 10.9 gm. of hemoglobin, 4.01 million red blood cells per cu. mm. and 14,500 leukocytes with a normal differential. The blood urea nitrogen was 11.0 mg. per 100 cc. and the creatinine was 1.4 mg.

On the twenty-eighth hospital day the total protein was 4.30 gm. per 100 cc. with 1.64 gm. of albumin and 2.66 gm. of globulin. (This was the only plasma protein determination.) Sputum culture revealed *Escherichia coli*, *Haemophilus influenzae* and *Aerobacter aerogenes*.

On admission a roentgenogram of the chest was reported as showing pneumonic infiltration in the right lower lung field and increased broncho-vascular markings in the left base. On the fifth hospital day (March 18, 1948) another film revealed a rounded density measuring 3 by 6 cm. in the right lung base overlying the right leaf

of the diaphragm. The right leaf of the diaphragm was slightly elevated and the appearance was interpreted as being suggestive of malignancy. A chest film on the twenty-first hospital day (April 3, 1948) revealed pneumonitis in both bases with pleural effusion in the left base.

On the fifth hospital day (March 18, 1948) 400 cc. of clear, straw-colored fluid was withdrawn from the right chest. Examination of this fluid by the Department of Pathology and by the Cytology Laboratory reported the presence of cells suggesting malignancy. On the twenty-third hospital day (April 15, 1948) 15 cc. of bloody fluid was withdrawn from the right chest and this was reported as being positive for carcinoma by the Cytology Laboratory.

The patient was digitalized and given penicillin 100,000 units every three hours. The temperature was irregular, varying from 100.4 F. on admission to 103 F. with one reading of 105.8 F. on the seventh hospital day (March 20, 1948). The pulse and respiration rate fluctuated with the temperature curve. Fluid balance was maintained with intravenous saline and glucose. Enemas were required on the fifth and twenty-ninth hospital days. From 4 to 6 diarrheal stools per day were noted on the eighteenth through the twentieth hospital days. These were not examined for occult blood.

Repeated observation of the patient revealed a progression of the peripheral edema and varying amounts of pleural effusion. There were no changes noted or detected in the abdominal findings.

The patient became comatose on the twenty-fifth hospital day and died on April 14, 1948, the thirty-third hospital day.

Clinical Diagnosis

Pulmonary malignancy.

Necropsy Findings

The most striking lesions at autopsy were found in the gallbladder, right kidney and lungs. The gallbladder was thin walled, filled with pus-like material, and the site of acute suppurative inflammation. The gallbladder wall was perforated near the tip, and the lumen communicated with an abscess cavity which contained about 100 cc. of greenish brown, pus-like fluid. The omentum and contiguous organs were plastered against the gallbladder in such a way that the abscess cavity occupied the pericholecystic region and an area 4 x 4 cm. on the anterior surface of the adjacent liver. No stone, neoplasm, or constriction was found in the gallbladder or extrahepatic

biliary ducts. There was subacute hepatitis and cholangitis with patchy fatty metamorphosis and focal necroses throughout the liver. Moderately severe pyonephrosis and pyoureter were present on the right. Subacute hemorrhagic cystitis was associated with hypertrophy of the urinary bladder. The prostate was tremendously enlarged and hyperplastic, creating vesical neck obstruction. *Escherichia coli* and *Pseudomonas pyocyaneus* were cultured from the pus in gallbladder and right kidney.

Bronchiectasis was conspicuous in the lower lobes of both lungs, presenting a mixture of cylindrical and saccular types. In addition, the right lower lobe was completely collapsed, and the left lower lobe was partially collapsed. Patchy areas of fibrosis and emphysema were present in the remaining lung tissue. There was 400 cc. of fluid in the right pleural cavity and 200 cc. of fluid in the left pleural cavity. The mesothelial cells of the pleura were hyperplastic, but there was no evidence of intrathoracic neoplasm. Decubitus ulcers, most of which were rather deep and possessed a foul odor, were noted over right sacrum, right greater trochanter, right shoulder, left flank and left scapula. Multiple decubitus ulcers were also present over the left internal malleolus and the right external malleolus. There was a mild perisplenitis and septic spleen. Generalized arteriosclerosis was pronounced but was especially intense in the abdominal aorta and the coronary, renal, and cerebral arteries. As results of this process there were patchy myocardial fibrosis and calcification, senile arteriosclerotic kidney disease, and brain atrophy. Thrombosis of the common iliac veins was found with emboli in the pulmonary arteries to the left upper lobe. Incidental findings included simple cysts in the liver, a small hydrocele of the left spermatic cord, and asymmetry of the ventricular system, probably congenital.

Necropsy Diagnosis

Acute and chronic cholecystitis with perforation and pericholecystic abscess.

Subacute hepatitis and cholangitis with fatty metamorphosis and focal necroses of liver.

Pyonephrosis and pyoureter, right severe.

Subacute cystitis with hypertrophy of urinary bladder.

Hyperplasia of prostate.

Bronchiectasis, lower lobe of lung, bilateral.

Collapse of lower lobe, right lung, and partial collapse of lower lobe, left lung.

Hydrothorax, bilateral.

Multiple decubitus ulcers.

Generalized arteriosclerosis, especially severe in abdominal aorta and coronary, renal and cerebral arteries.

Thrombosis, common iliac veins.

Embolism, pulmonary arteries to left upper lobe.

Dr. W. Bean (Medicine): (Discussion given before presentation of necropsy findings.) The problem we have to deal with today is one which hinges to a large extent on the interpretation of laboratory findings, and it presents, among other things, the difficult problem that is a feature of disease in older people. This is true particularly in those from whom an accurate history of the

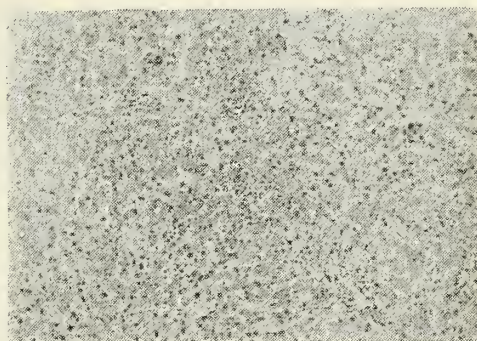


Fig. 2

course of the disease cannot be obtained. The past history of this elderly man is known only in the barest outline, but the course in the hospital is known in somewhat more detail. The reason for which he was admitted began with urinary retention, and shortly before that he had an attack of coughing in paroxysms, productive of thick tenacious sputum. For approximately a year he had had difficulty in emptying his bladder. There was no history indicative of any prolonged infection. The history indicates that for a period of perhaps a year or longer he had had shortness of breath on exertion and ankle edema for an indeterminate period. We do have a significant fact that he had lost 30 pounds the year before he came to the hospital. Loss of weight may give us a clue to the nature of the disease which is present, but when there is loss of weight we should also know whether appetite has been lost.

We have, then, the problem of a man who has had symptoms and signs that one might interpret as those of cardiac disease and difficulty in urination severe enough to require catheterization.

On physical examination, there was a well developed elderly man whose memory was poor

and who gave an indication of having lost a considerable amount of weight. The details of the examination are in the protocol. That the percussion note revealed a dull to flat sound below the fifth intercostal space on the right is not very enlightening. It might mean fluid, consolidation or something else, but it is important in conjunction with the remainder of the physical examination. The rest of the lungs were hyperresonant as one might expect either with a space occupying lesion in the right base or with senile emphysema. His blood pressure was 160/70. It is characteristic when the aorta and large arteries are rigid to have a systolic hypertension but no diastolic hypertension.

On the twenty-eighth hospital day he had a rather low total protein and a reversal in the albumin-globulin ratio, with an elevation of the globulin. The significance of this is difficult to interpret because it stands as an isolated observation. There are several diseases in which a relative or absolute hyperglobulinemia may occur, such as sarcoidosis, chronic liver disease and amyloidosis.

One plus may be only indicative of malnutrition and a reduction in the capacity of the body to elaborate albumin. The sputum culture which we have here, without reference to whether this was early or late in the disease, is difficult to interpret. If it was obtained on admission, prior to the penicillin therapy, I think that it might have had one significance; if it was obtained later on, it would have another. It has been noted recently that occasionally when penicillin is given for a long period of time the flora of the respiratory tract is changed completely and cultures of colon organisms may occur. In even rarer instances a colon bacillus pneumonia develops and, ordinarily, it is rapidly fatal.

The x-ray films, which I think are exceedingly important, were read as showing pneumonic infiltration of the right lower lung field and increased bronchovascular markings in the left base. On the fifth hospital day another film revealed a rounded density measuring 3 by 6 cm. in the right lung base overlying the right leaf of the diaphragm. This was interpreted to be suggestive of malignancy. The interpretation recorded here doesn't specify whether this was thought to be a metastatic lesion or a primary lesion, and, of course, the possibilities of other things such as pulmonary infarcts or atelectasis cannot be eliminated from consideration by reading the protocol. A subsequent chest film on the twenty-first hospital day revealed a pneumo-

nitic of both bases with pleural effusion on the left side.

We have initially some consolidation or something interposed between the surface of the chest and the lungs giving percussion dullness, but no other signs would indicate that there was a direct consolidation in contiguity with the surface of the chest. No changes of the breath sounds were described except for expiratory wheezes, and we don't know whether it was thought clinically that he had consolidation.

Now we come to the critical problem we have in this particular instance, and the differential diagnosis of the true fish from the "red Herring." I think the interpretation must be made in good faith. On the fifth hospital day 400 cc. of fluid was removed from the right chest. Examination of this fluid by the Department of Pathology and by the Cytology Laboratory re-



Fig. 3

ported the presence of cells suggesting malignancy. That is useful but not conclusive. However, on the twenty-third hospital day 15 cc. of fluid was withdrawn from the right chest and was reported as being positive for carcinoma by the Cytology Laboratory. Those who have not had much experience with histologic methods have read some of the claims of accuracy made by persons using the Papanicolaou technic and not every one is cognizant of the strict limitation on making the diagnosis of carcinoma from a single cell. In studying the cytologic preparations from packing down the solid material from a pleural effusion, it will depend on our confidence in the interpreter and whether one finds a bit of tissue with a number of cells in contiguity rather than merely one cell. In the last year I've had the experience of having at least 2 patients in whom an unequivocal diagnosis of tumor was made on the basis of cytologic studies, and both were proved to be in error, at subsequent operation in one case and autopsy in the other. It would

be very helpful to the discussant to know whether the diagnosis was made from a cell or a tissue and by someone thoroughly conversant with the treacherous possibilities presented by this method of diagnosis.

It was thought he had heart failure presumably on the basis of the peripheral edema, since murmurs did not suggest a specific type of heart disease. He was digitalized and he was also given penicillin. The temperature, however, continued to be irregular; he had fever varying from a little more than 100 to 103 F., and on the seventh hospital day there was one reading of almost 106 F. The pulse and respiratory rate fluctuated with the temperature curve. The fluid balance was maintained with salt solution and glucose. He required a couple of enemas which is not surprising in an old and debilitated person. From 4 to 6 diarrheal stools were noted during the latter part of the third week, but they were not examined for occult blood and no further description is given. This certainly is not a common episode but I attach no particular significance to it. The progression of the edema and the pleural effusion continued. There was no particular change in any of the abdominal findings. From reading the protocol, it appears that someone was surprised that there was nothing found clinically in the abdomen. Finally, the man, after he had been in the hospital for 33 days, died, having gone downhill and failed to respond to therapy.

From the protocol alone, one could hardly escape the conclusion that this man had a neoplasm in his chest, that perhaps it was disseminated to both sides and that it had been primarily either in the bronchus or in the mediastinum. Perhaps later on in his disease it interfered with the return of blood through the inferior vena cava because of the marked disparity between the peripheral edema and absence of shortness of breath or tachycardia or cardiac signs. Perhaps it was simply not observed, but it is difficult to escape the thought that this was not ordinary congestive heart failure. On the basis, then, of the evidence that we have, I am concluding that he has a tumor in the lung, presumably of bronchogenic origin, although this is by no means clear, but it may have invaded various portions of the mediastinum widely. Conceivably it may have given some pressure on the inferior vena cava. He undoubtedly had an infection, either pneumonia or multiple lung abscesses, and this infection was produced by organisms insensitive to penicillin and was important in his death. I would not be the least bit surprised nor par-

ticularly chagrined to find that this man had something entirely different.

Dr. C. Gillies (Radiology): This patient was seen on three occasions. This is the first examination, which demonstrates an inflammatory infiltration in the right lung base with some increased markings in the left base. This film shows a small amount of fluid in the costophrenic angle which was obliterated. Our impression on the first examination was pneumonitis involving particularly the right base with pleural effusion in the right base. The second examination, which was obtained five days later, was also read with the knowledge of the fact that tumor cells had been found in the pleural fluid, as reported in the protocol. In that examination we reported this as suggestive of malignancy. At the time of the third examination, we had come back to normal and reported this as pneumonitis in both bases and pleural fluid in both bases. This neoplasm could not have obviously developed in the five days, so in retrospect, the x-ray findings are not suggestive of malignancy in themselves.

Dr. Bean: How do you interpret what you see—as simple pneumonitis?

Dr. Gillies: Yes, with pleural effusion.

Dr. W. H. Ames (Medicine): When this patient first came to the medical ward from the Department of Urology on March 17, his admission diagnosis was pneumonia with questionable atelectasis in the right base, pulmonary emphysema, congestive heart failure, mild on a basis of arteriosclerosis, possibly cor pulmonale, and widespread arteriosclerosis. The possibility of a malignancy was entertained. Perhaps I can clear up some of the points for Dr. Bean that were not made clear in the protocol. The only history in the record was given by the patient. His son, who accompanied him, was unable to give additional information. The sputum examination listed in the protocol was made after the patient was transferred to medicine. At this time he had received approximately 4,800,000 units of penicillin. The heart tones were described simply as being weak. No one correctly interpreted the amount of edema which was at variance with his functional capacity. His course on the ward was progressively downhill. When I first saw him on April 1, the man was stuporous. Repeated examinations revealed only changes in the amount of pleural fluid and in the peripheral edema. The cytology reports and x-ray interpretations were compatible with the clinical picture and led to the diagnosis of pulmonary malignancy. At the time of death the interpretation remained the same as on admission with

the exception of a diagnosis of carcinoma of the right lung, probably primary and possibly secondary.

Dr. Bean: Can you give an age to the various lesions which were most conspicuous?

Dr. J. M. Layton (Pathology): The prostatic hyperplasia and the lesions which were associated with the vesical neck obstruction were undoubtedly of long standing in order to have produced such a degree of bladder hypertrophy, hydroureter and hydronephrosis. Those changes did not occur within a period of a few weeks. The bronchiectasis was probably of several years' duration. It was quite severe in many regions. The scarring in the associated lung tissue was probably present many months, perhaps longer. The gallbladder lesions were probably of the shortest duration. There was beginning organization of the exudate on the surface of the liver which would indicate that it was probably four to five days old anyway. It was rather well localized. Another finding that would place it as being perhaps four to seven days old is the continuing predominance of the polymorphonuclear leukocytes in the exudate. If it were of appreciably longer duration, we might expect diminution of the leukocytic response with a greater predominance of the mononuclear type of response, as well as more advanced scarring. The decubitus ulcers were synchronous with this patient's illness, which confined him to bed.

Dr. Bean: I think, in view of the findings, it is a matter of grave debate as to whether the exuberant penicillin therapy didn't contribute directly to his death. It is becoming increasingly well known that in people who are treated for infection of the type which does not respond well to penicillin you may change the entire flora of the local area and perhaps indeed the whole body. Here we have a man who had two well established suppurative lesions, an infected pyroureter and infection of the pelvis, and, in addition, he had bronchiectasis. Under those circumstances, and in view of the sputum culture and the lack of any evidence from the urine, it is quite conceivable that the nature of the organisms in the flora changed during the period that he was on penicillin therapy. This is not something to forget and neglect because I have personal knowledge of at least 4 people who have been on penicillin therapy for relatively minor affairs who have developed a fulminating infection and have died within 24 hours of the first symptom from a pneumonia or a septicemia produced by colon organisms.

I would suggest, therefore, that the therapy that was given here somewhat blindly was not only of no value but without very much question contributed to his final death. Streptomycin or some other chemotherapeutic agent might well have been used when the culture of the colon organism from the sputum was obtained. I do think it is important to be aware of the fact that in using chemotherapeutic agents of strong nature, you can change the nature of the surviving organisms of the same type, and with a number of compounds you can end with an organism very resistant to the medication which you are using.

Dr. J. Bradbury (Obstetrics and Gynecology Laboratory): I want to take this opportunity to confirm Dr. Bean's statement that cytologic interpretation should be undertaken only by someone who is well experienced in the field, which we are not. We probably are confronted by the same situation with these mesothelial cells that the pathologist is because they are very responsive to many types of stimuli, and the mistake here was made in expressing any diagnostic opinion. We have stated, at least in the gynecologic field where we have had the most experience, that cytology should not be a diagnostic procedure. It is a helpful procedure which may lead to taking a biopsy which is diagnostic.

As to the cells seen, this was a smear, and the cells were scattered so that no clumps were seen. The cells were unusual but undoubtedly were just the mesothelial cells responding to some stimulation in the pleural cavity, either infection or inflammation. We had hoped when the laboratory was set up this year that facilities would be available for someone interested in that phase of cytology to bring material in so that smears from peritoneal and pleural fluids could accumulate in sufficient number that there would be adequate material for study. We are in the stage of accumulation and should not be expressing any opinion until there is a backlog of several hundred slides.

Dr. E. Warner (Pathology): I'd like to make a few comments with respect to the identification of those cells in the pleural fluid as malignant cells. Dr. Bradbury has rather accepted the thesis that the failure to recognize them as hyperplastic rather than malignant cells was based upon lack of experience. There has been much study of such cells since before 1900. In fact, much study of cells in smears was done before methods had been developed for cutting blocks and making stained tissue sections. It has been

observed by many individuals that malignant cells in general tend to have certain morphologic abnormalities as compared to nonmalignant cells, particularly in the nucleus. They tend to have abnormally large and abnormally hyperchromic nuclei and abnormally large nucleoli. Such changes are more prevalent, in general, in malignant cells than they are in hyperplastic cells. But, it has been well demonstrated, also, by meticulous statistical measurement of nucleocytoplasmic and of nucleolonucleus ratios that those findings in malignant cells and in hyperplastic cells overlap. Mesothelial cells, as found in the pleural cavity, are notoriously in the group where the overlap is generous.

Some have even gone so far as to actually measure the diameters both ways, to get both the long axis and the short axis and then have applied the mathematical formula for the volume of an ellipse to compute the ratio of the nucleus to the nucleolus. They came out with the same answer—that the overlap between hyperplastic and neoplastic cells is very extensive. These cells in this case were quite suspicious on the basis of the nuclei being abnormal, more abnormal than ordinarily seen in hyperplastic mesothelium. But, as the case indicates, they are not more abnormal than may be seen in hyperplastic mesothelial cells. No matter how many years of experience and how many thousands of these cells Dr. Bradbury or anyone else looks at, the morphology of the individual cell of this type still is not going to be diagnostic. I submit that it is not simply a matter of lack of experience in miscalling those cells; it is a matter of overlapping morphologic features of neoplastic and hyperplastic cells.

Dr. E. S. Brintnall (Surgery): I am here in an unfavorable light. The time is up, I am the last speaker, and I am representing the surgical department which recently had a patient die on its service with a perforated gallbladder. I think, in our defense, that I should tell you something about the patient. He was a chiropractor, 69 years of age, who was admitted in the middle of December in very poor general condition. He was admitted with cerebral arteriosclerosis and paresis, an uncontrolled diabetes mellitus, and numerous decubitus ulcers, and he was bedfast. Under treatment, the number and severity of decubitus ulcers increased. He developed several scattered suppurative lesions from which hemolytic *Staphylococcus aureus* was cultured, his condition gradually worsened and he died four months after admission. A week before he died

he developed abdominal pain, distention and vomiting. The patient seemed to be in his terminal illness at that time. A Wangenstein tube was inserted and it was found that he had gastric dilatation. We were partially satisfied by that although we did entertain other diagnoses. The abdominal signs cleared up. Two days before his death these abdominal symptoms reappeared and became worse, but the patient was obviously moribund at that time and we did not explore the abdomen because he would not have withstood it. We suspected intestinal obstruction, acute pancreatitis and carcinoma of the pancreas. Autopsy showed that he had a ruptured gallbladder, and as is very common with ruptured gallbladder, it was well walled off by omentum, transverse colon, liver, parietal peritoneum in the area, duodenum and the distal portion of the stomach.

I think that we might mention the pathogenesis of acute cholecystitis. Generally, there are three factors in play. First, there is usually a cystic duct obstruction, most often due to stone. This obstruction may at times be due to a thickened tarlike bile. Secondly, there is a chemical effect of a very damaging nature on the gallbladder wall by the bile salts and cholesterol, if these are present in a concentrated form. This will damage the gallbladder wall, and these two conditions alone can produce gangrene of the gallbladder. Thirdly, there may be superimposed upon that a bacterial infection of the gallbladder. These two cases of ruptured gallbladder were difficult to diagnose because they had multiple foci of trouble and multiple foci of infection. Probably in each instance the disease of cholecystitis was relatively benign to start with, but in each instance there was a late bacterial invasion of the gallbladder causing a full-blown infection. Both were senile patients. The acute gallbladder disease in each patient was the most recent focus of infection and was overshadowed by other lesions. In both of them the general condition was poor, and I don't believe that surgical therapy could be seriously considered in either.

I think we might briefly discuss the treatment of acute cholecystitis. I feel that acute cholecystitis is a surgical disease. If the patient is seen within the first 72 hours, there is every reason to operate immediately. The patient is relieved of pain, and the surgeon finds at this time, an anatomic situation which lends itself to easy cholecystectomy. Early operation obviates the perforations and gangrenes which are estimated

STATE DEPARTMENT OF HEALTH

Walter Diering

CHANGES IN DOSAGE OF TYPHOID VACCINE

The Biologics Control Laboratory of the National Institute of Health has approved reductions in the dosages of typhoid vaccine. For many years physicians have complained about the severity of reactions following the individual injections of this vaccine and have felt that the doses were too large.

The Army Medical Corps has constantly been working to improve typhoid vaccine and to set high test standards for it. As a result of the extensive scale of investigative work done by that group, the National Institute of Health now accepts the reduced dosage and change of interval between doses. Instead of 0.5 cc., 1 cc. and 1 cc. doses at weekly intervals, manufacturers will subsequently change directions to read 0.5 cc. injections at one to four week intervals with smaller dosages for children under ten years of age. Dosages for revaccination are to be unchanged, that is 0.5 cc. subcutaneously or 0.1 cc. intracutaneously.

Since the strength of the vaccine is not being changed, physicians may start using the reduced dosage with the vaccines currently at hand.

SEASONAL DECLINE OF POLIOMYELITIS BECOMES MARKED

List of monthly incidence of poliomyelitis for:

Month	1940 Cases	1946 Cases	1947 Cases	1948 Cases
January	12	8	6	6
February	7	1	2	0
March	1	0	0	8
April	1	2	1	6
May	2	8	4	18
June	5	8	5	36
July	21	44	9	91
August	174	191	48	163
September	421	132	39	329
October	242	117	41	361
November	32	96	18	93 (as of 11-13)
December	11	13	3	
Total	929	620	176	1111

The 1948 seasonal curve shows an unusually high early incidence of poliomyelitis for Iowa with 84 cases reported prior to July 1 and 91 during July as a result of the early peak incidence of the disease in the western portion of

the state. The months of September and October mark the maximum epidemic period for the state as a whole. Although more cases are recorded as having occurred in October, the individual weekly incidence was not as high as in September. In all states cases of communicable disease are recorded on a weekly basis with the week ending Saturday. The October excess of poliomyelitis cases over September is therefore due more to the chance happening that there were five weeks recorded for October and four for September.

The 28 cases for the week ending November 13 were reported as follows:

County	Cases	County	Cases
Cerro Gordo	5	O'Brien	1
Cherokee	1	Plymouth	3
Clinton	4	Polk	3
Crawford	1	Ringgold	1
Dallas	1	Scott	1
Ida	1	Story	1
Marion	1	Webster	2
Montgomery	1	Wright	1
Total	28		

Death reports, received through channels differing from those through which we receive our morbidity reports, are slower in reaching us. For this reason deaths are on file only for the first nine months of the year, that is, through September. The 34 deaths and 657 cases reported for the first nine months of 1948 show a lower mortality rate than for the same period in 1940 when 46 deaths and 644 cases had been reported.

Number of poliomyelitis cases through September:

1940	1948
644	657

Number of poliomyelitis deaths through September:

1940	1948
46	34

PROPOSED HEALTH LEGISLATION

The long range objective of a public health program for the entire state of Iowa is to educate the public to the fact that matters of health are a local responsibility. There are two types of public health administration: (1) that of

building a strong centralized state department of health to render service on the local level; and (2) that of establishing strong local health departments in cooperation with the state department of health acting in an advisory capacity, which in our opinion is more effective.

Legislation should be enacted whereby county and district or multi-county health departments could be established, financed mostly from local funds. This could be done in one fell swoop by legislative action. However, since laws are an outgrowth of human experience, it is more democratic to ask the legislature to enact permissive legislation whereby communities may so organize.

A bill is being prepared which will permit counties by referendum to create county, district or multi-county boards of health, elected by the voters of the county, and to establish county, district or multi-county health departments; to provide for their organization and their powers and duties; to provide jurisdiction over health matters and to control preventable diseases; to provide for the appointment of necessary health officers and the employment of medical, nursing, sanitation and other personnel; and to authorize the levy of taxes for the purpose of this act.

The minimum activities of a health department should include the following:

1. Collection of vital statistics.
2. Activities directed toward the control of preventable diseases including tuberculosis and venereal diseases.
3. Environmental sanitation, including milk and food sanitation.
4. Promotion of maternal, child, dental, adult, social and mental hygiene.
5. Dissemination of public health information to the entire public.
6. The promulgation of effective measures of disease prevention and health conservation.

INFLUENZA

Incidence

To date only 48 cases of influenza have been reported for the entire year in Iowa. Virginia, South Carolina and Texas are reporting most of the cases for the United States. This does not indicate epidemics in those areas but rather, more constant reporting of the disease by physicians in those states. Iowa physicians are inclined to report this disease only during epidemic periods. For example, as a result of the late winter epidemic in Iowa during the season of 1946 and 1947, 23,211 influenza cases were on record at this time for 1947.

Our 48 reported cases thus indicate only the lack of any epidemic increases for influenza to this time.

Vaccines

Influenza vaccines being distributed by commercial firms this year have the F M-1 strain of virus added to the vaccine. This is the variant of virus A which appeared in epidemic form in several areas of the country last year and against which the vaccine then used offered little protection.

NUTRITIONIST APPOINTED

Mrs. Helen Lovell of Howe, Neb., has been appointed nutritionist for the Iowa State Department of Health. Mrs. Lovell received her Bachelor of Science degree from the University of Nebraska and served her dietary internship at the University of Michigan Hospital at Ann Arbor, Mich. She has served as assistant administrative dietitian at the Methodist Hospital in Indianapolis, Ind., and research dietitian at the State University of Iowa Hospitals in Iowa City. She recently completed her work on her Master of Science degree at the University of Nebraska. Mrs. Lovell assumed her new duties with the health department on October 1.

MORBIDITY REPORT

DISEASE	Oct. '48	Sept. '48	Oct. '47	Most Cases Reported from:
Diphtheria	6	4	4	Scattered
Typhoid Fever	3	0	14	Keokuk, Madison, Sioux
Scarlet Fever	56	25	52	Buchanan, Dubuque, Polk
Smallpox	0	0	0	
Measles	17	8	32	Linn, scattered
Whooping Cough	75	26	84	Dubuque, Polk, Washington, Woodbury
Brucellosis	39	43	85	Scattered
Chickenpox	103	10	47	Cerro Gordo, Dubuque, Linn, O'Brien
German Measles	1	1	4	Mitchell
Influenza	0	0	1	
Malaria	0	1	4	
Meningitis Men.	8	1	4	Scattered
Mumps	104	44	52	Boone, Dubuque, Scott, Story
Pneumonia	7	1	4	Black Hawk, Calhoun
Poliomyelitis	361	329	41	Cerro Gordo, Polk, Sioux, Pottawattamie
Tuberculosis	55	67	68	For the State
Gonorrhea	95	111	106	For the State
Syphilis	124	123	221	For the State

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National Diabetic Week

The American Diabetic Association has decreed December 6-12 as National Diabetic Week. Plans are formed for extensive nationwide diabetic detection throughout Canada and the United States. The state health departments, state medical societies, and county medical societies are requested to back this drive to their utmost.

Dr. Charles H. Best, of Toronto, co-discoverer of insulin, is the president of the American Diabetic Association. Dr. Howard Root of Boston is the national chairman in charge of the National Diabetic Week. Dr. J. D. Boyd, Professor of Pediatrics at the State University of Iowa, is the chairman and in charge of the drive for the state of Iowa.

You will find in this issue of the JOURNAL two articles dealing with the problem of diabetes. As noted, it is planned to carry out an extensive educational campaign in which the public will be required to contact family physicians for urinalysis and blood sugar screening tests. These tests will be provided only if the individual will furnish the name of a physician or clinic to which the results of tests be mailed for interpretation to the patient.

The success or failure of this diabetes detection drive depends upon the support of the individual physician. Your cooperation in this program should do much not only in the field of public relations but also in the more important discovery and training of those individuals who are unaware that they are afflicted with diabetes.

What Effect the Election?

The re-election of President Truman probably assures another attempt at enactment of some form of national health insurance patterned along the lines recommended by Mr. Oscar Ewing. As reported in the November JOURNAL, Mr. Ewing made no pretense of following the recommendations of the National Health Assembly. His thinking rejects all voluntary plans and all professional efforts as being inadequate and ineffectual, and since he has the President's confidence it seems certain his recommendations will carry weight. Although the seven physician members of Congress, all of whom are opposed to compulsory health insurance, were re-elected, control of the important committees still remains in the hands of those who favor such compulsory methods. Representative Harness, who has been one of the most stalwart fighters for voluntary and free medicine, was not re-elected.

Now, as never before, it is important for the physician to cooperate fully in the voluntary plans for meeting economic conditions. Even more important, however, is the publicizing of these voluntary efforts. The several million subscribers to Blue Cross and the growing number of subscribers to Blue Shield can well testify to the value of voluntary plans, but other voices should be added to theirs. Each physician should feel a personal responsibility in letting the civic leaders in his community know what is being done to meet the costs of catastrophic illness. Nearly all states are attempting to provide a wider distribution of Blue Shield coverage. Experiments on rural enrollment have been going on in Iowa for two years. Experiments in individual enrollment have been tried by other states. The public should be told that the plans are not static but are working for wider distribution and coverage.

It is somewhat ironical that through President Truman's re-election one of the recommendations of the medical profession will probably be realized—the establishment of a new federal department at cabinet level encompassing government activities in medicine and public health, education and social welfare—but that its new head will probably be Mr. Oscar Ewing. It looks as if the individual doctor and his voluntary prepayment plans are starting out the four-year term with two strikes against them. It must be remembered, however, that the ball game is never over until the last man is out. To make this more specific, may we remind you that your congressman and senator are responsible to the peo-

ple who elected them. If those people are well enough informed on the dangers of compulsory health insurance and are sufficiently "sold" on the value of a voluntary system, they can have a great effect on the vote of their representative. The doctor's part lies in seeing that his patients and his friends are so informed.

National Blue Shield Conference

In the recent conference of the Blue Shield Plan at French Lick, Ind., on Oct. 25, 1948, three resolutions were approved by the commission, followed by several heated discussions. The discussions were held on such pertinent subjects as social security benefits asked by the worker, minimum requirements for adequate statistical records, how government enters the health insurance business, and prepayment for rural America.

Among the speakers provoking the most discussion was Mr. Harry Becker, C.I.O. union representative from Detroit—a radical unionist whose talk opened new channels of thinking for the Blue Shield representatives. Although Mr. Becker is a member of the Board of Directors of the Michigan Medical Service, his presentation was typical of all union leaders. He outlined five social security benefits which the worker is asking: disability, hospitalization, medical care, pensions and death benefits, suggesting means of securing these objectives through negotiation. Labor desires guaranteed retentions in the form of adequate reserves, as required by state insurance departments; rebates to the worker if utilization is low (although nothing was said about additional premiums if the utilization within a group was excessively high); and retention of the program should the worker leave the group.

Consulting actuary, Mr. W. Ronlon Williamson of Washington, D. C., followed with a talk on the importance of adequate statistical records. He stressed research in the favorable selection of risk, pointing out that we must consider the aging population, malingering, statistics on sex, age and work status. Mr. Williamson also brought up the question of contingency reserves and the adoption of a per cent of pay up to a certain specified amount to be chargeable as a premium rate, rather than the flat rate now used.

Mr. Walter C. Welsferd from Vancouver, British Columbia, was the next speaker, giving information on "How Government Enters the Health Insurance Business." His discussion gave the representatives a picture of how the govern-

ment is undersubsidizing the Blue Cross plan so that it will probably have collapsed into the hands of the government by Dec. 31, 1948. He points out that a commercial organization, even on a nonprofit basis, cannot compete with a government program and that hospitals will soon be under government domination in Canada.

Great interest was shown in Mr. Orrie Beeler's talk on "Prepayment for Rural America" because the plan representatives realized the need of helping the rural as well as the urban areas. The representatives opposed higher rates for rural areas, unless such a program was presented in proper light with community cooperation.

Unanimously approved by the members were the three resolutions voted upon at the first of the business meeting. These resolutions briefly stated that the Blue Cross-Blue Shield Association be thoroughly discussed but final action should not be taken; proposals be referred to the Commission for discussion and expression of opinion; and finally, that all proposals be referred to the House of Delegates of the A.M.A. and a hearing be granted to a special committee appointed for presentation of the proposals. It seemed to be the consensus of the group throughout the meeting that some type of national organization must be evolved if national accounts are to be underwritten.

Penicillin Troches

The advent of penicillin therapy has been of immense benefit to all physicians. As frequently happens with a new form of therapy, the public is apt to use a new drug indiscriminately and injudiciously. It is well to remember that such indiscriminate use of penicillin troches without proper medical supervision may result in disaster for the patient. It has been established that penicillin has little effect upon the Klebs-Löffler bacilli so that the patient with a "sore throat" who is actually suffering from diphtheria may be lulled into a false sense of security. Likewise, in the case of an acute Streptococcus infection of the throat the use of penicillin troches may relieve the symptoms of the sore throat but prove ineffective in such serious complications as acute glomerulonephritis or acute rheumatic fever.

It is well for physicians to remember that the indiscriminate use of penicillin troches by the general public without proper medical supervision should be deprecated in view of the serious complications which might easily develop.

Medicine and War

Brigadier-General Edgar Erskine Hume pointed out in the 1948 Kober lecture at Georgetown University* that medicine and war may fittingly be discussed as related subjects because medicine concerns itself with fighting disease, and war is the most terrible of all diseases. Pirogoff, the great military surgeon of Imperial Russia, called war "a traumatic epidemic."

Mankind has found that war may necessitate the prevention of disease just as it has always sought the prevention of wounds. When an army takes the field, or a fleet prepares for active war duty, the commander is called upon to conduct two campaigns simultaneously. The first is against a visible enemy, consisting of men and munitions of war. The other is against an invisible enemy whose weapons are enervation and disease. Thus, the first duty of the medical, as of every other service, is to aid in winning the battle and the campaign. An efficient medical service can not only prevent men from rotting with fever and disease but also keep them strong and vigorous—fit instruments for the execution of the commander's designs. This is a direct military help, for medicine is no mere salvage service.

There is no disease peculiar to soldiers or sailors. But there are certain departures from a state of health to which service men are especially heir because of their work and environment. Even the treatment of individual cases of disease does not differ in civil and military practice, except that the military physician may have to practice under conditions in which he is without adequate supplies and assistance. On the other hand, the means taken to prevent the occurrence and spread of disease in the military service must frequently differ greatly from those used in civil life.

Horrible though war is, it has not infrequently brought about medical advances of lasting value, not merely to armies, but to whole nations and to all mankind. War is a stimulus to medicine, a challenge both socially and technically. Medicine has ever known what it means to be engaged in war to the death—either the death of the patient or the death of the destructive forces that beset him. Every air attack has its medical side. Though actual hospitals and homes for patients, orphans, and incapacitated persons may not be destroyed, reduction in housing facilities with consequent overcrowding of those that remain, loss of municipal water supplies, destruction of

disposal plants for wastes, reduction in foods and clothing, and many more factors enter the picture of war's effect on medicine. There is even danger of establishing a vicious circle wherein the shortage of medical aid leads to an increase of sickness and that, in turn, to further shortage of medical aid.

Medicine has profited by the lessons of every war. The more medical science has progressed, the more has it been able to save human life and health, even in war. The essential gifts of war to medicine are unparalleled opportunity for experiment and the most powerful stimulus to use that opportunity to the full; and experiment is the only road to knowledge. Medical officers of armies and navies and now air forces as well have stood first in advances in preventive medicine, because they have authority over individuals—an advantage which is denied the private practitioner or civil health officer.

We owe the creation of hospitals, in our sense of the term, to war. War also gave to medicine the hospital attendant to aid in the care of patients in the hospital. While war has given rise to the greatest humanitarian needs, it has in its turn created one of the greatest humanitarian advances of the modern period—military nursing, from which developed professional nursing in general. A natural sequel to the care that medicine gives to soldiers in war, though time was when aftercare of disabled soldiers was not considered, is their rehabilitation when the war has ended.

Major General Edward Croft, Chief of Infantry of the Army, was right in saying that warfare has always been terrible. The injuries with javelin, lance and catapult were quite as serious to the individual wounded man as those produced by the more effective agents of destruction of today. The greater efficiency of modern weapons means that more men are injured but not that the individual is more seriously hurt. We are apt to forget that wounds by spears and other ancient weapons were not unlike those by modern bayonets in that they were likely to be fatal. Remember that arrow wounds, even though the arrows were not poisoned intentionally, were infected wounds, as were likewise wounds by other sharp instruments of battle.

An army's morale is kept at a high level through the soldier's knowledge that he is receiving modern care and that diseases are prevented which, but for medicine's gift, might have destroyed him. Morale is that intangible something which good soldiers—and good armies—have, but which poor ones lack. When medicine raises military mor-

*Hume, E. E.: Medicine and war. *The Military Surgeon*, ciii: 169-193 (September) 1948.

ale, it gives to national defense—or to war, if you prefer—a potent weapon.

Providing proper food for the soldier, food that is not only free from the agents of disease, but which is attractive, is a gift of medicine. Proper clothing, adequate rest and relaxation, sufficient ventilation and many other factors contributing to the welfare of the soldier and the consequent efficiency of his army have been contributed by medicine. Even recreation is recognized as of medical worth and should be mentioned in this connection.

The military mind, though appreciating the humanitarian side, sometimes does not realize the military value of disease prevention. An army exists to go to war and not to the hospital. Diseases which are not fatal or which have low fatality rates, but render large numbers of men non-effective, will reduce the actual power of a command and thus have the most serious effect on a military operation. The protection of our fighting men from disease, particularly in war, entails special studies of the diseases likely to occur in each possible theatre of operation.

Not the least of war's most fearful aspects is its association with the spread of epidemics. It has been so ever since the beginning of recorded history. The crowding of men together, the excessive fatigue, irregular hours, insufficient and inadequate food, and the ease with which infectious agents pass from the sick to the well have all combined to this end. Medicine's continuing successful war on epidemic diseases is its greatest contribution to war.

Greatest of the First World War's benefits to medicine were the advances in preventive medicine. The dangers of overcrowding—long known but long disregarded—were once more recognized. Venereal prophylaxis, making use of technics already known, was improved by better administrative measures. Study of the effects of warfare chemicals and the safeguarding of human beings, and even animals, was most valuable. While it is true that only the war created this need, the lessons learned have been of value in agriculture and industry. There was, as a result of that war, considerable improvement in the standardization and the distribution of drugs and other medical supplies.

The Second World War has contributed to medicine by holding up a mirror to the people of this and other countries engaged, showing them the physical state of their young men of military age. Whereas in the First World War our Army's death rate was 8.3 per cent, it was but 4.5 per cent in the Second World War, a reduction of

almost half. This means that military surgeons were able to save the lives of 96 per cent of all wounded men admitted to the hospital. In World War I the annual death rate for all diseases in the United States Army was 16.5 per thousand men. That figure, the best up to that time, was reduced to less than one man per thousand in World War II. Back in 1918 a force of 10,000 men lost 156 yearly from disease. But such a force in the Second World War lost only 6 men from disease. The difference between the fatality rates for World Wars I and II meant the saving of upwards of 30,000 lives! Of nearly 700,000 wounded men, the death toll was little more than 29,000. About 600,000 returned to duty after treatment, 6 out of 7 no less.

Three general factors account for better results in World War II than those in World War I: (a) the improved medical organization in the combat zone; (b) the rapid transportation and evacuation of the wounded; and (c) the development and widespread use of new drugs and new medical technics, such as penicillin, the sulfa drugs, new anesthetics, blood plasma, etc.

With the advance of medical science, the medical officer is certain to assume greater responsibilities in future wars.

CLINICOPATHOLOGIC CONFERENCE

(Continued from page 533)

to occur in 10 to 20 per cent of patients with acute cholecystitis.

Now, what should be done after 72 hours? If the cholecystitis seems to be clearing up (if the signs are diminishing), then I would say wait until the acute inflammation subsides. In such a situation, the gallbladder can be removed at a later date. If, under observation, increased pulse rate, increased temperature, increased leukocytosis, ileus, and evidence of peritoneal irritation appear, the inflammation is progressing and operation is indicated. The wise surgeon operating at this stage will carefully survey the situation and will not routinely perform a cholecystectomy. Operating late, after 72 hours, it may be difficult to distinguish cystic duct and artery. There is a great likelihood, therefore, of doing damage to very important structures. In such a situation, cholecystostomy should be performed. This is an old operation, and if the stones are completely removed, is not too unsuccessful. About two-thirds of the patients who have cholecystostomy do not have enough further trouble to necessitate surgery. One-third of them will have recurrent trouble and have to have a cholecystectomy.

NEWS NOTES

from the

Committee on Medical Service and Public Relations

REPORT OF THE NORTH CENTRAL MEDICAL CONFERENCE

The annual North Central Medical Conference was held Nov. 7, 1948, at the Radisson Hotel, Minneapolis, Minn. Representatives were present from Nebraska, Wisconsin, North and South Dakota, Iowa and Minnesota, and guests from Illinois, Missouri and New York. The attendance numbered approximately 75.

Dr. E. M. Hammes, President-elect, Minnesota State Medical Association, opened the conference with an address of welcome and introduced Dr. A. W. Adson, President, North Central Medical Conference, who gave a presidential address. The theme of Dr. Adson's talk was "Doctors in a Changing World." He expressed the opinion that meetings of this type were necessary to keep doctors aware of world changes. Doctors must be the first to recognize social, economic and political changes, Dr. Adson stated. The men who have been in practice for a number of years have the responsibility of preserving the private practice of medicine for the younger men now entering practice or completing their education.

He believes that doctors must become more active in community affairs and should take a more active part in molding community thinking. "The opinions of doctors of medicine are of immeasurable value to every home community," he said. Doctors should attempt to utilize more of their social and economic training than is evident at the present time. Even though certain rights must be maintained, we are obligated to keep the public informed as to our doings, Dr. Adson continued. He thinks our prepaid medical plans are serving the purpose well, but he also believes that the commercial companies deserve our commendation and cooperation in accomplishing this task of affording prepaid medical and surgical care to the public.

Dr. Adson was followed on the program by Dr. John McVay, Chairman, Council on Medical Services, American Medical Services, who spoke on "The National Program of Blue Cross and Blue Shield." Dr. McVay, acting as spokesman for the Council on Medical Service, discussed primarily the existing relations between the American Medical Association and Associated Medical Care Plans. He expressed the belief that A.M.C.P. has gone beyond its purpose for being organized when it attempts to influence medical policy. The Council believes the association

of voluntary, nonprofit, medical and surgical plans should act only as a reciprocal enrollment agency rather than as a national health service organization. The members are of the opinion that A.M.C.P. has lost its sense of responsibility to its founder, the American Medical Association. Before anything more is done in the way of national enrollment this trade organization should come to realize that the A.M.A. will be the one to direct medical policy and that Associated Medical Care Plans shall be operated according to the wishes of the entire profession through the authority delegated the Board of Trustees of the American Medical Association. The lack of a national enrollment agency has not, up to this time, hindered the growth of either Blue Cross or Blue Shield. Blue Cross has grown to cover 32,000,000 subscribers while Blue Shield now covers approximately 10,000,000, Dr. McVay continued. The Council on Medical Services of the American Medical Association does not at this time approve the formation of a National Service Company, he said. In closing, Dr. McVay stated, "It is the responsibility of A.M.C.P. to increase the enrollment in Blue Shield, furnish actuarial data, disseminate valuable plan information, but not to attempt to determine the pattern for the practice of medicine."

Dr. McVay's presentation was followed by two discussants, Dr. F. L. Feierabend, Kansas City, Mo., and Dr. H. R. Brown, Watertown, S. D. Dr. Feierabend's opinions were not fully in accord with those expressed by Dr. McVay, but as Dr. Feierabend said, "Difference of opinion makes for a complete understanding." It was quite obvious from Dr. Feierabend's speech that he is definitely in favor of a national organization to enroll national accounts and is doing everything that is possible to bring about the formation of such an organization. He agrees that the 50,000,000 persons now employed in small industries can be covered by the present plan, but that in order to serve properly the 10,000,000 employed by national employers, an organization such as he has proposed should be formed. He stated that "the Blue Shield Commission has not attempted to dictate medical policy to the doctors of the United States but has attempted to carry out the instructions set out by the A.M.A." The doctors in the United States have the social responsibility of affording the best medical care at a purchasable price to the people of America, and the profession must not divorce privilege from responsibility in doing this job.

Dr. H. R. Brown, Watertown, S. D., discussed

the profession's endorsement of commercial insurance companies that sell prepaid medical and surgical care and their position with A.M.C.P. He doesn't believe it is correct that only voluntary, non-profit, medical and surgical plans sponsored by the medical profession be eligible for the services of A.M.C.P. He believes all state medical societies in good standing with the A.M.A. should have this service made available to them even though they do deal with commercial carriers. They had a part in the \$25,000 that was provided for the establishment of A.M.C.P., particularly when the commercial company has the seal of approval of the American Medical Association. He discussed the legal complications that might come as a result of a national organization. He made particular reference to the Sherman Anti-Trust Laws.

The morning session was concluded with a speech by Mr. Charles Crownhart, Madison, Wis., Secretary, Wisconsin State Medical Association, entitled "Cooperatives and the Practice of Medicine." Mr. Crownhart explained Wisconsin's position in regard to medical cooperatives. The authorities of the Wisconsin State Medical Association were of the opinion that it would be better to endorse the cooperatives when they meet certain qualifications, and then provide a program that will give better coverage. Mr. Crownhart believes that cooperatives are more prevalent in Wisconsin and Minnesota but that there is a possibility that they will expand. His two discussants were Dr. W. A. Wright, Williston, N. D., and Dr. R. F. Erickson, Minneapolis, Minn. Both men were familiar with cooperatives in medicine and other fields so they were able to speak authoritatively. Neither was of the opinion that cooperatives have a legitimate place in the field of medicine.

Following dinner Dr. Gunnar Gunderson, LaCrosse, Wis., a member of the Board of Trustees, American Medical Association, outlined the thinking of the Board on some of the subjects discussed or to be discussed during the program. Mr. Thomas Hendricks, Chicago, Ill., Secretary, Council on Medical Service, American Medical Association, completed the after dinner program by giving his version of the "Ten Commandments for Prepaid Medical Care." His proposed commandments were well received.

Dr. Adson called the afternoon session to order by asking Dr. Morgan, Nebraska, to read the resolutions drawn up by the resolutions committee to represent the thinking of the conference: (1) that the Council on Medical Service of the A.M.A. be provided additional funds for further study of all voluntary plans; (2) that all Blue Shield Commissioners should be practicing doctors of medicine; (3) that the dues of state members of the North Central Medical Conference be increased from \$50 a year to \$75 per year. The first was not approved, the second was approved and adopted, and the third was also approved.

Dr. Howard K. Gray, Rochester, Minn., member of the Committee on Nursing Problems of the A.M.A., was next on the program with a discussion on "What

Is the Answer to the Nursing Shortage?" The committee represented by Dr. Gray has been considering nurses' training courses of various durations. They have discussed 12 months for a bedside nurse, three years for the professional nurse and the combined two years of college plus three years of nurses' training for the nurses to be instructors. He stated that 30 per cent of the nurses who take training do not finish or do not practice their profession after completing the training. He indicated that there are now 350,000 trained nurses practicing, but if the increasing needs are to be met nurses will need to be graduated at the rate of 50,000 a year. It is the hope of his committee that some effort will be used to persuade married and retired nurses to return to service. Dr. R. G. Mayer, Aberdeen, S. D. and Dr. H. E. Stroy, Osceola, Iowa, were Dr. Gray's discussants. Both reiterated the comments that were made by Dr. Gray and urged better relations between the medical and nursing professions.

"The General Practitioner" was discussed by Mr. Mac F. Cahal, Kansas City, Mo., Secretary, American Academy of General Practice. He mentioned the importance of the general practitioner to the public and to the medical profession, and the fact that the general practitioner is now, as a result of the American Academy of General Practitioners, receiving some of the well deserved recognition. He believes that more graduate medical students are now turning to general practice rather than specialization. He had statistics from several medical schools to substantiate this belief. He gave a clear-cut explanation of the establishment and purpose of the American Academy of General Practitioners. His discussant was Dr. Roy Fouts, Omaha, Neb. who stressed the importance of having well qualified general practitioners. Dr. Fouts, now a specialist, spent 13 years as a country doctor, so he was well qualified to give an unbiased opinion.

Dr. Harold R. Hennessy, Chicago, Ill., Secretary, Council on National Emergency Medical Service, American Medical Association, talked on "Medicine in the Next National Emergency." Dr. Hennessy pointed out that the medical profession has never failed when it was called to duty. He indicated that there is no need for fear in this respect. He expressed the opinion that more doctors were taken into the armed forces in World War II than were actually needed, and as a result many physicians were not given an opportunity to utilize their best talents. He believes the younger doctors who received part or all of their training under the Army ASTP program or the Navy V-12 program would be the first to serve under the present system.

Dr. Floyd L. Rogers, Lincoln, Neb., Chairman, Planning Committee, Nebraska State Medical Association, discussed "Expansion of State Association Programs." He was followed by his two discussants, Dr. A. E. Cardle, Minneapolis, Minn., and Dr. A. D. McCannel, Minot, N. D., who concluded the conference program.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

A-B-C'S OF SULFONAMIDE AND ANTIBIOTIC THERAPY—By Perrin H. Long, M.D., F.R.C.P., Professor of Preventive Medicine, The Johns Hopkins University School of Medicine; Physician, The Johns Hopkins Hospital. W. B. Saunders Company, Philadelphia, 1948. Price, \$3.50.

A.M.A. INTERNS' MANUAL—W. B. Saunders Co., Philadelphia, 1948. Price, \$2.25.

CONGENITAL MALFORMATIONS OF THE HEART—Helen B. Taussig, M.D., Associate Professor of Pediatrics, Johns Hopkins University School of Medicine, and Director of the Children's Cardiac Clinic at the Harriett Lane Home of the Johns Hopkins Hospital. The Commonwealth Fund, New York, 1947. Price, \$10.

DETAILED ATLAS OF THE HEAD AND NECK—By Raymond C. Truex, M.S., Ph.D., Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University, and OAKL E. KELLNER, Artist, Department of Anatomy, College of Physicians and Surgeons, Columbia University. Oxford University Press, New York, 1948. Price, \$15.

EDUCATION FOR PROFESSIONAL RESPONSIBILITY—A report of the proceedings of the Inter-Professions Conference of Education for Professional Responsibility held at Buck Hill Falls, Pennsylvania, April 12, 13, and 14, 1948. Carnegie Press, Carnegie Institute of Technology, Pittsburgh.

HUMAN BIOCHEMISTRY—By Isreal S. Kleiner, Ph.D., Professor of Biochemistry and Director of the Department of Physiology and Biochemistry, New York Medical College, Flower and Fifth Avenue Hospitals; Formerly Associate, The Rockefeller Institute for Medical Research, New York, Second Edition. The C. V. Mosby Company, St. Louis, 1948. Price, \$7.

THE LIVER AND ITS DISEASES: Comprising the Lowell Lectures Delivered at Boston, Mass., in March, 1947. H. P. HIMS WORTH, M.D., Professor of Medicine in the University of London; Director of the Medical Unit, University College

Hospital, London; Fellow of the Royal College of Physicians of London; Fellow of University College, London. Harvard University Press, Cambridge, Mass., 1947. Price, \$5.

OCCUPATIONAL THERAPY SOURCE BOOK—Edited by Sidney Licht, M.D. With an introduction by C. Charles Burlingame, M.D., Psychiatrist-in-Chief, The Institute of Living. The Williams and Wilkins Company, Baltimore, 1948.

PEDIATRICS AND THE EMOTIONAL NEEDS OF THE CHILD—As discussed by pediatricians and psychiatrists at Hershey, Pennsylvania, March 6-8, 1947. Edited by Helen L. Wittmer. The Commonwealth Fund, New York, 1948. Price, \$1.50.

PSYCHIATRY IN GENERAL PRACTICE—By Melvin W. Thorner, M.S., Assistant Professor of Neurology, The Graduate School of Medicine, University of Pennsylvania. W. B. Saunders Company, Philadelphia, 1948. Price, \$8.

VIRUS DISEASES OF MAN—By C. E. van Rooyen, M.D., D.Sc. (Edin.), M.R.C.P. (Lond.), Research Member and Professor of Virus Infections, Connaught Medical Research Laboratories and School of Hygiene, University of Toronto, Formerly Sir Halley Stewart Research Fellow, and Lecturer in Bacteriology, University of Edinburgh, and London School of Hygiene and Tropical Medicine, University of London. Thomas Nelson and Sons, New York, 1948. Price, \$20.

THE 1948 YEAR BOOK OF PEDIATRICS—Edited by Henry G. Poncher, M.D., Professor and Head, Department of Pediatrics, University of Illinois College of Medicine, Chicago. Isaac A. Abt, M.D., Editor Emeritus. The Year Book Publishers Inc., Chicago. Price, \$4.50.

YOUR BABY—The Complete Baby Book for Mothers and Fathers—By Gladys Denny Shultz, Contributing Editor, *Ladies' Home Journal*, and Lee Forrest Hill, M.D., Former President, American Academy of Pediatrics. Doubleday & Company, Inc., Garden City, N. Y., 1948. Price, \$3.50.

BOOK REVIEWS

MODERN CLINICAL PSYCHIATRY

By Arthur P. Noyes, M.D., Superintendent, Norristown State Hospital, Norristown, Pa. W. B. Saunders Co., Philadelphia, 1948. Price, \$6.

This book presents a fairly complete coverage of modern psychiatric concepts. It is oriented in such a way that it readily can be used more for teaching than as a source of clinical information. Detailed space is given to definition of psychiatric terminology and to history taking. However, not enough case histories are cited in the chapter dealing with specific problems in psychiatry to give the neophyte in this branch of medicine a thorough knowledge of various mental disorders seen clinically. The parts of the text dealing with child psychiatry are not complete enough to cope with the importance of this problem.

On the whole, the book may be of more value to medical students than to those faced with everyday psychiatric problems. This book could well serve as a source of reference for didactical instruction.

J. S. C.

PERIPHERAL VASCULAR DISEASES: DIAGNOSIS AND TREATMENT

David W. Kramer, M.D., F.A.C.P., Associate Professor of Medicine, Jefferson Medical College; Assistant Physician, Jefferson Hospital; Chief Clinical Assistant, Vascular Clinic, Jefferson Hospital; Visiting Physician, Medical Division, Philadelphia General Hospital; Consultant on Peripheral Vascular Disorders, Philadelphia General Hospital; Attending Physician, Metabolic Division, and Chief of Diabetic Clinic, Jewish Hospital; Attending Physician and in Charge of Department of Metabolic and Peripheral Vascular Disorders, St. Luke's and Children's Medical Center; Metabolist to Eagleville Sanatorium. Foreword by EDWARD L. BORTZ, M.D. F. A. Davis Co., Philadelphia, 1948. Price, \$8.

The increasing armamentarium available to the physician in the treatment of peripheral vascular disorders is reflected by a rising interest in this group of diseases. This new work, the result of wide

clinical experience, is a practical guide to the why of diagnosis and the how of therapy in the field of blood vessel disturbances.

Diagnostic methods are outlined in detail, including readily available bedside procedures for study of the circulation in the extremities. There follows a discussion of the occlusive vascular disorders, in which there is a particularly comprehensive review of thrombo-angiitis obliterans. The third section of the book is devoted to vasospastic, vasodilator, and unclassified groups, the latter including a somewhat cursory survey of the subject of hypertension. The fourth section, dealing with gangrene and chronic leg ulcers, is unusually comprehensive. The concluding section of the book is devoted to veins, anti-coagulants, antibiotics, and lymphedema.

With the avowed aim of making the work a practical one, the author has given precise details of drug dosage and of other therapeutic procedures. Recent medicinal approaches to the treatment of vascular disorders that seem to have escaped attention include the use of procaine intravenously, of quinine, and of vitamin E. There will be some dissent from the author's preference for thorium dioxide as a medium for arteriography.

There are more than 150 illustrations, most of them of better than ordinary quality and 25 in color. The typography is above average. The index and bibliography are comprehensive.

H. J. S.

SOURCE BOOK OF ORTHOPAEDICS

By Edgar M. Bick, M.D., F.A.C.S., Dipl. Orth. Surg., Associate Orthopedic Surgeon, The Mount Sinai Hospital, New York; Fellow American Academy Orthopedic Surgeons. Fellow in Orthopedic Surgery, New York Academy of Medicine. One time Regional Consultant Orthopedic Surgeon (Army), European Theater of Operation. Second edition. The Williams and Wilkins Company, Baltimore, 1948. Price, \$8.

This second edition has been brought up to date and has become accepted as the best volume of its kind. The history and development of orthopedic surgery is presented, authenticated by an excellent bibliography. All aspects of orthopedic surgery are covered most completely. This volume should be in the library of anyone dealing with bone surgery.

E. M. G.

A TEXTBOOK OF PATHOLOGY

By William Boyd, M.D., Dipl., Psych., M.R.C.P., Edin. F.R.C.P., Lond., LL.D., Sask., M.D., Oslo, F.R.S.C., Professor of Pathology and Bacteriology of the Univer-

sity of Toronto, Toronto. Fifth edition, thoroughly revised. Lea & Febiger, Philadelphia, 1947. Price, \$10.

Boyd's classic textbook of pathology has always been most readable and popular. The new fifth edition surpasses in completeness and clarity his previous volumes. The publishers assert that the book has been entirely reset and that it is 192 pages larger than the previous edition. A discussion of allergy, omitted from the previous edition, has been rewritten and reinserted into the text matter. The book is well illustrated, and there are 30 color plates.

Perusal of the book demonstrates that many new topics are at least briefly presented and that there has been careful, thoughtful revision of much of the text. The book is recommended without reservation by the reviewer.

R. F. B.

THE 1947 YEAR BOOK OF OBSTETRICS AND GYNECOLOGY

Edited by J. P. Greenhill, B.S., M.D., F.A.C.S., Professor of Gynecology, Cook County Graduate School of Medicine; Attending Gynecologist, Cook County Hospital; Attending Obstetrician and Gynecologist, Michael Reese Hospital; Associate Staff, Chicago Lying-In Hospital; Author of *Office Gynecology and Obstetrics in General Practice*; Co-author of the *DeLee-Greenhill Principles and Practice of Obstetrics*. The Year Book Publishers, Inc., Chicago, 1948. Price, \$3.75.

This year book, as in previous years, presents abstracts of all the major articles on obstetrics and gynecology appearing in the American and important foreign journals. The abstracts, for the most part, contain enough of the article that one can gain the full importance of the author's ideas. The very fine comments by the editor, following the important or controversial articles, help to separate the "wheat from the chaff."

Obstetric subjects attracting the largest number of articles and discussions were: Treatment of Abortion, Induction of Labor, Analgesia and Anesthesia in Obstetrics, and the Rh Factor.

Gynecologic subjects given the most attention in the literature last year were: Infertility, Vaginal Hysterectomy, Treatment of Urinary Incontinence, Endometriosis, Vaginal Smears in the Diagnosis of Gynecologic Carcinoma, and the Treatment of Carcinoma of the Cervix.

This is a very valuable volume to provide a quick resume of the year's literature and to indicate to the practitioner the current trends in obstetric and gynecologic thinking.

P. K. H.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. ALLAN G. FELTER, Van Meter

President-elect—MRS. CHARLES A. NICOLL, Panora

Secretary—MRS. CHARLES T. MAXWELL, Sioux City

Treasurer—MRS. M. A. ROYAL, 1138 Thirty-seventh Street, Des Moines 11

NATIONAL CONFERENCE OF THE WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION

The National Conference for officers, state presidents and presidents-elect was held November 4 and 5 at the Hotel Sherman, Chicago. The Iowa president and Mrs. R. M. Minkel, president-elect, were privileged to be present. The meeting was called to order at 10 a.m. by the national president, Mrs. Luther H. Kice, whose dynamic personality, energy and enthusiasm was felt throughout the conference. Her work during the first five months included visits to auxiliaries, correspondence with state presidents regarding their problems, consultation with officers of the A.M.A., and the promotion and direction of the Auxiliary program. Thirty-three states and the territory of Hawaii answered roll call and all chairmen of standing committees were present to give their recommendations. On every hand there was an attitude of seriousness, the desire to learn how those present could make their respective state auxiliaries more effectual in carrying out the program of the A.M.A. in educating members of the medical profession and the laity to the dangers of socialized medicine, and to recognize the rapidly spreading vicious propaganda. The seriousness of the fight against socialization and the urgency of the need of well-organized state auxiliaries to improve public relations were the themes of nearly all the addresses and recommendations.

The luncheon hours were enjoyable and informative with able speakers from the A.M.A. staff. Note that the December *Bulletin* will be the conference number in which these addresses will be printed.

The three speakers at the conference were Fred V. Hein, Ph.D., Consultant on Physical Fitness, A.M.A.; Mr. William Doscher, Assistant Director of Public Relations, A.M.A., and Frank G. Dickinson, Ph.D., Director of Bureau of Medical Economic Research, A.M.A. Dr. Hein said that interest in school health has spread like an epidemic through the country, that school health programs involve not only improvement of children's health, and the benefits to be derived, but the selling of the idea that the private practice of medicine works satisfactorily. It is during the formative years that children's attitudes toward doctors and medical care are established. Each child should be permitted his own doctor, and a school should never become a treatment center, but

rather a point for control of communicable disease and periodic health examinations. Last year over 300 workshops were held to train teachers to observe the abnormal in children's appearance.

An address which was particularly outstanding was that of Frank G. Dickinson on the subject "Medical Economics in Relation to the Woman's Auxiliary." He gave facts and figures with which we can fight destructive propaganda and prove the progress of medical science and health care. He reminded us that in old Rome a man might live to be 30; in 15 centuries life expectancy had increased about eight years; by 1900 the life expectancy in the U. S. (including the colored) was 49 years; now it is 67 years. For a wealth of "ammunition," write to THE BUREAU OF MEDICAL ECONOMIC RESEARCH OF THE A.M.A., 535 N. Dearborn St., Chicago 10, Illinois, and ask for pamphlets 64, 65, 66. They are free.

The recommendations given by the chairmen of standing committees and suggestions gleaned from state presidents would fill pages. A few follow with the hope that county presidents, committees, and doctors' wives will, by group effort or singly, adapt them to local needs:

1. Follow legislation.
2. Read "Old Age and Insurance," *A.M.A. Journal*, Sept. 25, 1948.
3. Read "The Brooking Report" and "The Ewing Report."
4. Know the Taft-Hartley Bill.
5. Use pamphlets available from the A.M.A. office for auxiliary programs and pass them on to other organizations for programs.
6. Keep an index file of lay organization officers to aid public relations at a county level.
7. Direct a health day each year using the leading people of the community.
8. Promote organization and membership by inviting doctors' wives from unorganized counties to your meetings.
9. Place *Hygeia* in the hands of state and county officials.

In summary, the conference emphasized the imperative need for study and work on the part of the Auxiliary to interpret aright the cause of organized medicine and gain greater friendliness toward it. We left the meeting inspired and determined to do more for the cause of the medical profession, but

humble before the task confronting us. I appreciated very much the privilege of attending the conference—two days not easily forgotten.

Mrs. Allan G. Felter, State President

A LETTER FROM EDNA FREEL WHO ENTERED NURSE'S TRAINING IN SEPTEMBER

1118 Callanan Drive
Des Moines, Iowa

Woman's Auxiliary to the Iowa State Medical Society
Dear friends:

I want you to know that I really appreciate my loan. You have given me an opportunity that otherwise would have been impossible, at least for some time, because of my mother's illness and surgery this past summer. It was during her illness that I realized the need for nurses and decided what I really wanted to do. Now I am enrolled in nurse's training and thoroughly enjoy it.

All I have done so far is study, but I realize that studying hard now will help me later, and my subjects are so interesting that I don't mind putting in long hours. Because I enjoy it so much, I hope my sisters may have an opportunity to do the same thing, as that is their ambition when they finish high school.

Again I wish to express my thanks to you for the loan. I think you are doing a wonderful service, and I hope someday that I, too, may be able to help someone who needs assistance.

Sincerely yours,
Edna Freel

PROGRAM SUGGESTIONS

The following list of speakers has been made from suggestions by our Auxiliary members. I am hoping we will make use of them in planning programs on health and spreading the information to other organizations.

- Mr. Howard Benshoof, 415 Bankers Trust Building, Des Moines—"Vocational Rehabilitation"
- Mrs. E. B. Dawson, Fort Dodge—"Mental Health"
- Mr. Frank Ulich, Fort Dodge—"Safety"
- Dr. C. D. Miller, Denison—"Cancer"
- Mrs. Harold Morgan, Mason City—"Cancer"
- Mrs. Howard Smith, Woodward—"Nurse Recruitment"
- Mrs. Dorothy Phillips, 2917 Grand Avenue, Des Moines—"Iowa Society for Crippled Children and the Disabled"
- Miss Jessie Norelius, 503 Shops Building, Des Moines—"Problems of the Nursing Association"
- Mrs. E. B. Howell, Ottumwa—"U. S. Health Service—The Best in the World"

Our Iowa State Department of Health will send out speakers to groups of a fair size. For talks on topics not listed here, I would suggest writing them for speakers.

Our list of speakers should be more complete. I would very much appreciate receiving names of

speakers and their topics so they could be made available to our auxiliaries and other inquiring organizations.

Another project of importance is the establishment of Health Reading Tables in our local libraries. This should be done by each Auxiliary and by members at large. Mrs. K. M. Chapler has compiled a list of fiction and non-fiction which will be helpful.

"Shannon's Way" by A. J. Cronin

"Young Doctor Glenn" by Ray Hamilton

"With Crooked Lines" by J. M. Hartley

"Hospital Zones" by Elizabeth Seifert

Non-Fiction

"My Polio Past" by Noreen Linduska

"Lost Boundaries" by W. L. White

"Women Doctors Today" by Sally Knapp

"Divorce Won't Help" by Edmund Bergles

"How To Help Your Child Grow Up" by Angelo Patri

"Studies in Child Development" by Arnold Gesell, M.D.

"How To Stop Worrying and Start Living" by Dale Carnegie

"Woman's Inside Story" by Mario Castello and C. L. Schulz

"Managing Your Mind" by S. H. Kraines, M.D., and E. S. Thetford

Mrs. J. E. Whitmire, Chairman, Public Relations

DON'T FORGET TO CONTRIBUTE TO THE STUDENT NURSE LOAN FUND!

REPORT TO FALL BOARD MEETING

Nursing Interests

The Committee on Nursing Interests has been working on two projects during the year: (1) student nurse recruitment, and (2) the statewide nursing survey.

STUDENT NURSE RECRUITMENT. Early in the year literature for high school students and their parents was sent to county medical auxiliaries, doctors' wives and high schools. A specially prepared movie about nurses' training, "For You To Decide," was available at the Iowa State Medical Society office. This movie and some literature is still available for distribution.

Many doctors' wives arranged programs through local women's clubs and various organizations where high school girls were invited to hear talks and see the movie which gave facts and interesting information regarding student nurses in the hospital and their social life. In many instances, a student or graduate nurse (sometimes both) attended these meetings and gave interesting talks to the girls. The committee feels that many young girls were given an opportunity to learn more about the advantages of nurses' training as a career and an education for life.

The hospital schools for nursing were very co-

operative. They generously provided student nurses for the meetings.

In Guthrie County, the Woman's Auxiliary made it possible for every high school girl in the county to see the movie and hear a talk given by a student and graduate nurse. A leaflet, "Who Me," written in a young girl's language and from her own viewpoint answering questions about nursing, was available for every girl at these meetings.

A nurse recruitment booth was set up at the state fair under the supervision of Miss May Campbell, Public Health Nurse Supervisor. The chairman of the Nursing Interests Committee of the Woman's Auxiliary worked with Miss Campbell in formulating plans for the nurse recruitment booth. The Des Moines hospitals furnished student nurses at the booth.

The nurse recruitment committee feels that student nurse recruitment should be a continuing program. Doctors' wives can individually use every opportunity to encourage young girls to consider seriously nurses' training as a profession and a foundation for family living. Doctors' wives can arrange programs where young girls can learn the facts about nursing. This is probably best done through other organizations in each community such as:

- Women's clubs
- Parent-Teacher Associations
- American Legion Auxiliaries
- Church and Sunday School groups
- Farm Bureau meetings
- 4-H Clubs
- High school assemblies.

The hospital nearest you will be glad to furnish a nurse speaker as a part of the program and use the literature and movie that are available. Hospitals also have literature to give to interested girls.

We can do a good job of student nurse recruitment if we are well informed and show interest and enthusiasm in the educational future of the young women in our respective communities.

Two extensive studies have been made regarding the nursing problem and nursing for the future. A report of the committee appointed by the American Medical Association will be found in the issue of July 3, 1948, *Journal of the American Medical Association*. The other study of the nursing problem was prepared for the National Nursing Council by Dr. Esther Brown, director of the Department of Studies in the Professions of the Russell Sage Foundation. Dr. Brown's report has just been published. It is titled "Nursing for the Future." Both of these reports are well worth reading and help us to understand better the position of the nurse in the community.

STATEWIDE NURSING SURVEY. Our other project this year has been the statewide nursing survey in cooperation with the Iowa State Nurses' Association to ascertain the status and needs of nursing in Iowa and to meet better the growing demand for patient service. In each county a

doctor's wife is serving as county chairman, and her committee, composed of one or more members of the county medical society, doctors' wives and nurses, are conducting the survey on a county basis. Surveys in about one-third of the counties have been completed.

The state committee on nursing interests wishes to express thanks and sincere appreciation for the excellent work that has been accomplished and is still being done. From the correspondence that has passed between the state committee members and the county committee chairmen, it is evident that doctors' wives are extremely busy in community activities and are meeting their responsibilities in community living.

Mrs. Howard W. Smith, Chairman
Mrs. Fred Moore
Mrs. Walter Hombach
Mrs. Harry H. Lamb

Nurses' Loan Committee

The Nurses' Loan Committee has not been too busy this past summer because we have had very few girls seeking help. However, at present we have a girl starting training at Iowa Methodist Hospital and are making arrangements for her loan.

I have contacted other organizations making loans and am assured by them that they will help if I need them and do not have the funds available. Consequently our chief duty now is to build up this fund which has diminished since we have two girls. Members of Pottawattamie County Auxiliary used their influence and persuaded two other organizations to give the sum of \$150 to our fund during the summer. This is a fine record for a newly reorganized auxiliary. Do you have a friendly group in your community which would be interested in helping train a nurse?

We should be grateful if counties would make their contributions as early as possible because we have obligations which must be taken care of before dues are paid.

Mrs. W. R. Hornaday, Chairman

Work for the Handicapped

Work for the handicapped is a project every county auxiliary and every doctor's wife, personally in unorganized counties, can wholeheartedly sponsor and support. Every county in the state has its handicapped persons—children and adults.

Suggestions:

1. Secure a list and acquaint yourselves with the handicapped persons in your community. If you have organized agencies in your county, such as a director of special education or a county organization of the Iowa Society for Crippled Children and the Disabled, offer to cooperate with them in their work.

If you have no organized agencies, your county medical society and your county superintendent of schools can help you in making a list of handicapped persons.

2. Acquaint yourselves thoroughly with all of the services available in the state for crippled or disabled persons and be prepared to offer counsel to parents or relatives in securing such services. (Iowa Health Agencies, published by Iowa State College, Ames, is a valuable booklet.)

3. Interest others in your community to help provide employment for disabled persons, or help handicapped children by providing funds to send them to day camps or regular camps.

4. Be mystery mother to shut-in boys and girls and remember them on special occasions with cards or gifts.

5. Make suggestions to disabled persons as to ways and means of their keeping occupied by securing recreational materials and ideas for handicraft work. Try to interest those in your community who are skilled in handicraft work to devote some of their time to helping handicapped persons.

6. Provide outlets for sale of articles made by handicapped persons by arranging for a display and sale of their handicraft—either in your own community or by sending the material to some location where it may be displayed and sold. (Polk County Auxiliary conducted such a display and sale at Younkers, Des Moines, in March of this year. Woodbury County Auxiliary did likewise at Sioux City. Both auxiliaries plan to continue this work. It is hoped we can promote such sales outlets in four or five key centers in the state.)

Mrs. M. H. Brinker, Chairman
Mrs. F. Eberle Thornton
Mrs. Matthew J. Moes
Mrs. Howard I. Down

DALLAS-GUTHRIE MEDICAL AUXILIARY

Ten members and one guest were present at the October 21 meeting of the Dallas-Guthrie Medical Auxiliary at Panora. Mrs. C. R. Osborn, Dexter, county president, presided over the business meeting.

The following members were unanimously chosen to fill the offices for 1949:

President: Mrs. W. D. Todd, Guthrie Center

President-Elect: Mrs. William Seidler, Jr., Jamaica

First Vice President: Mrs. C. A. Nicoll, Panora

Second Vice President: Mrs. P. W. Beckman, Perry

Secretary: Mrs. C. E. Porter, Redfield

Treasurer: Mrs. William Thornburg, Guthrie Center

Our state president, Mrs. A. G. Felter, urged all members to subscribe to *Hygeia* and *The Bulletin*. She gave an interesting report of the Second Community Workshop which was held in Des Moines in October. She asked that we try to establish a health reading table in our public libraries.

Mrs. H. W. Smith, state student nurse recruitment chairman, reported the serious need for trained nurses and the advantages of a high school recruitment program. She called attention to the proposed legislation for licensing practical nurses.

Miss Hazel Herrick, Dallas County health nurse, gave a resume of her work in the county and stressed

the need for a health planning committee in each community. She commented on the importance of mental hygiene and the need for becoming more informed in that field.

Mrs. H. W. Smith and Mrs. John Loosbrock gave interesting accounts of their vacation trips.

Mrs. C. E. Porter, Secretary

Dr. and Mrs. K. M. Chapler and Dr. and Mrs. C. R. Osborn were hosts to the members of the Dallas-Guthrie Medical Society and their wives at Dexter, October 26. A delicious dinner was served at the Elms Cafe and the group enjoyed an evening of bridge at the Library Hall.

INTERESTED IN MENTAL HEALTH FELLOWSHIPS?

A limited number of fellowships in mental hygiene research is being offered by the United States Public Health Service to psychiatrists, psychologists, social workers, anthropologists, sociologists, and others with proper qualifications. Anyone interested is urged to make application for forms and information to the Division of Research Grants and Fellowships, National Institute of Health, Bethesda 14, Maryland.

"For Iowa's Health," State Department of Health,
October, 1948

Cancer is now responsible for 12 per cent of all deaths in the U. S.

LEGISLATIVE PROGRAM MATERIAL

Very recent pamphlets and editorials having to do with medical legislation and related topics may be secured from Mrs. Cecil Jones, 3303 Lincoln Place Drive, Des Moines. Mrs. A. G. Felter, president, brought back a limited number of pamphlets from the conference in Chicago, November 4 and 5. In the event that there are not enough pamphlets, Mrs. Jones will be able to supply addresses where they may be secured. We list some of the topics which are included in this selection:

100 Things You Should Know About Communism in the U. S. A.

Health Care . . . A Moral Issue

Rural Child Health

Despotism by Consent of the Governed

The Christian Concept vs. Collectivism in Medicine and Education

Government Medicine—Its Relative Effectiveness and Economic Repercussions

Government Medicine in New Zealand

Doctors—The Guardians of our American Heritage

How Rich Are You?

Voluntary Health Insurance vs. Compulsory Sickness Insurance (a bibliography)

Medical Care for the Individual

Forcing Socialized Medicine on America by the Use of Federal Employees and Government Money

The Cost and Quantity of Medical Care in the U. S.

Doctor, My Statistics Feel Funny

What is the Leading Cause of Death? Two New Measures

Packaged Thinking for Women

List of Communist Fronts in the U. S.

SUGGESTED READING

Paradise Unlimited—The Menace of the State Police
Marjorie Shearon
Legislative Service
Washington, D. C.

Voluntary Non-Profit Medical Care Plans
Bureau of Medical Care Insurance
292 Madison Ave.
New York City, N. Y.

Check and Double Check on Sickness Insurance
J. Weston Walch
Public Relations Bureau
292 Madison Ave.
New York City, N. Y.

Mental Hygiene
National Mental Hygiene
1790 Broadway
New York 10, N. Y.

Fifty Years of Medical Progress
John L. Bachs, A.M.A.

Read regularly the auxiliary pages in the *Journal of the A.M.A.*, the state medical journals, the *Bulletin*, publications of the Woman's Auxiliary, *Hygeia* and the News Letter of the A.M.A.

Mrs. L. A. Coffin, Program Chairman

DID YOU KNOW

That Iowans contributed \$333,793 to the American Cancer Society in its 1948 campaign? The assigned quota for the state was \$272,320. Iowa was the nineteenth state to go over the top in the national campaign which netted \$13,000,000.

That most of Showman Earl Carroll's one million dollar estate will be used to establish a cancer research clinic?

That more than a year ago the Council on Pharmacy and Chemistry of the A.M.A. began a file of materials about cosmetics with particular emphasis on reactions following the use of cosmetics? Members of the Woman's Auxiliary are invited to use this material.

That Edward W. Dunklin and Theodore T. Puck, two scientists at the University of Chicago, have discovered that pneumonia and cold germs can be killed by keeping the relative humidity at 50 per cent? (Relative humidity is the ratio of moisture definitely in the air to the maximum possible at a

given temperature.) In the *Journal of Experimental Medicine* the scientists state that "The simplicity of this measure would commend its use in a large variety of situations if it could be shown to exercise even a partially beneficial effect."

IOWA NEURO-PSYCHIATRIC SOCIETY

Thirty-nine private practitioners and representatives of each of the state's mental institutions gathered at the Woodward State Hospital on September 23, and, after the banquet, organized the Iowa Neuro-Psychiatric Society. Dr. George L. Wadsworth, being host to the gathering, called the meeting to order. Dr. P. E. Huston of Iowa City was elected temporary chairman and Dr. Wadsworth served as temporary secretary. At the formal election of the permanent officers Dr. Huston was unanimously elected as president and Dr. Grace M. Sawyer of Woodward elected as secretary in the same manner. Dr. Norman Render, superintendent at Clarinda State Hospital, was elected vice president. Trustees elected were Drs. Tom B. Throckmorton and C. C. Graves of Des Moines, M. B. Emmons of Clinton and John I. Marker of Davenport. It was voted to hold regular meetings semi-annually.

SPEAKERS BUREAU RADIO SCHEDULE

WSUI—Tuesday at 11:30 a.m.

WOI—Thursday at 11:15 a.m.

November 30-

December 2 Early Danger Signals of Diabetes—Robert L. Jackson, M.D., and Robert C. Hardin, M.D., Iowa City

December 7-9 Recent Advances in the Management of Diabetes—Arthur G. Lueck, M.D., Des Moines.

December 14-16 Christmas Seals—Mr. J. H. Bishop, Des Moines

December 21-23 New Advances in the Treatment of Tuberculosis—Roland T. Rohwer, M.D., Sioux City

December 28-30 Self-Medication—Speaker not yet scheduled

NOTICE

Physicians are invited to indicate their desire to receive books for review through the JOURNAL, specifying the field of interest or particular book wanted. Upon request the JOURNAL staff will write for any new medical book which has not already been received. Address your requests to the JOURNAL, 505 Bankers Trust Building, Des Moines 9, Iowa.

SOCIETY PROCEEDINGS

MEETINGS

Black Hawk County

The regular meeting of the Black Hawk County Medical Society was held November 16 at Hotel Russell Lamson, Waterloo. Dr. M. Edward Davis, Professor of Obstetrics and Gynecology, Chicago Lying-In Hospital, University of Chicago, conducted a round-table discussion on common obstetric and gynecologic problems.

Calhoun County

The regular meeting of the Calhoun County Medical Society was held October 20 at the American Legion Hall, Pomeroy. Following the dinner, Dr. R. J. Harrington of Sioux City presented a paper on "Management of Diabetic Acidosis and Coma." The paper was drawn from a review of 50 cases of diabetic acidosis and coma treated during the last five years. An interesting discussion followed.

Cerro Gordo County

The Cerro Gordo County Medical Society meeting was held on October 12 at the Hotel Cerro Gordo, Mason City. Dr. E. S. Brintnall, Department of Surgery, State University of Iowa, spoke on "Cancer of the Stomach."

Greene County

The Greene County Medical Society held a dinner meeting for doctors, dentists and their wives at the Greene County Hospital November 4. A program of general interest followed the dinner.

Johnson County

The monthly meeting of the Johnson County Medical Society was held November 3 at the State Sanatorium at Oakdale. Following a 6 p. m. dinner and the business meeting, Dr. C. F. Taylor, Superintendent and Medical Director of the State Sanatorium, Norton, Kan., gave a talk on "Histoplasmosis." Discussion was opened by Dr. E. R. Gann of the State Sanatorium, Oakdale.

Kossuth County

Kossuth County Medical Society held its monthly meeting at Van's Cafe, Algona, October 6. Dr. J. W. McCreery was honored by members at the meeting. He was presented with his Fifty Year Club pin and certificate.

Linn County

Linn County Medical Society will hold its monthly meeting December 16. Dr. A. F. Rovenstine, New York, will speak on "Intravenous Use of Procaine

and Its Derivatives." Discussion by Dr. Stuart Cullen, Iowa City, and Dr. Florence Johnston, Cedar Rapids, will follow.

Pottawattamie County

The Pottawattamie County Medical Society heard an address given by Dr. C. F. Lowry at its regular meeting October 19 at the Hotel Chieftain, Council Bluffs. Dr. Lowry discussed "Soft Tissue Inflammation."

Scott County

The November meeting of the Scott County Medical Society was held the twenty-sixth at the Lend-a-Hand Club. The featured speaker was Dr. W. D. Langley of the Guthrie Clinic and the Robert Packer Hospital, Sayre, Pa. He spoke on "Problems of Asthma."

Wapello County

The regular monthly meeting of the Wapello County Medical Society will be held December 7 at St. Joseph Hospital in Ottumwa. Drs. G. C. Blome, Edward B. Hoeven and E. B. Howell of Ottumwa will present a discussion on "Some End Results in Hip Fractures."

On September 7 Dr. Vernon S. Downs of Ottumwa spoke to the group on "Coronary Thrombosis." Dr. Russell Meyers of the State University of Iowa gave an address on "Paroxysmal Convulsive Disorders" at the October 5 meeting, and the evening of November 9 Dr. E. D. Plass of the University of Iowa discussed "Recent Advances in Obstetrics and Gynecology."

Woodbury County

The October meeting of the Woodbury County Medical Society was held at the Martin Hotel, Sioux City, on the twenty-first. Dr. Louis Vaughn, Rochester, Minn., discussed the work of the Mayo Clinic with antibiotic drugs.

PERSONALS

Dr. R. V. Daut, formerly of Muscatine, has located in Davenport for the practice of medical and surgical urology, having completed several years' training at the Mayo Clinic, Rochester, Minn. Dr. Daut, who was graduated from the State University of Iowa College of Medicine in 1944, recently received a Master of Science in Urology from the University of Minnesota School of Medicine.

Dr. J. S. Devine of Sigourney has begun the practice of medicine in Latimer. He will be asso-

ciated with Dr. J. F. Martin. Dr. Devine, who recently married Delores Gusenda, Cloquet, Minn., was graduated from the State University of Iowa College of Medicine. He has been engaged in practice at Iowa City until he recently located in Latimer.

Dr. L. M. Dyke spoke at the weekly Kiwanis Club meeting at Sheldon November 1. His address was on phases of poliomyelitis and cancer.

Dr. Frederick H. Lamb, Davenport, was elected president of the American College of Pathologists at the annual convention at Hotel Drake, Chicago. He has previously served on the organization's board of governors.

Dr. Tom Mangan of Forest City has moved to Sumner to start a practice. Dr. Mangan, who recently completed his internship at St. John's Hospital, has located with Drs. W. L. and J. E. Whitmire. He attended St. Louis University School of Medicine.

Dr. Herbert C. Merillat of Des Moines spoke before the Federated Clubs of Hardin County October 25. He discussed conditions in the state mental health institutions in Iowa.

Dr. Don Pfeiffer of Dubuque, who has recently completed his internship at Englewood, N. J., has moved to McGregor and will set up practice there. Dr. Pfeiffer was graduated from the State University of Iowa College of Medicine.

Dr. Norman Render spoke to members of the Iowa Society of Mental Hygiene at the clinic held in Council Bluffs September 27. His address concerned problems in getting mental patients reaccepted in their own community.

Dr. S. R. Severson, formerly of Slater, will be associated with Dr. J. W. Martin in the practice of medicine at Holstein. Dr. Severson was graduated from the State University of Iowa College of Medicine and practiced before going into the service. Since leaving service he has been taking special training in the Cleveland Hospital, where he just completed a surgical residency.

Dr. F. T. Stearns, who has practiced medicine in Osage for the past three years, has left for a new location in the southwest. Dr. Stearns was in partnership with Drs. J. O. and M. O. Eiel. He specialized in obstetrics.

Dr. E. M. Stimac of Virginia, Minn., moved to Princeton on October 1, setting up a general practice there. Dr. Stimac was graduated from the University of Minnesota School of Medicine.

Dr. John H. Stewart, formerly of Kansas City, Mo., recently moved to Ottumwa and will be asso-

ciated with Dr. S. F. Singer, x-ray specialist. Dr. Stewart is qualified as a roentgenologist. He was graduated from Northwestern University Medical School in 1943 and interned at St. Luke's Hospital, Kansas City, Mo.

DEATH NOTICES

Brown, George Byron, aged 67, died September 25 at his home in Clarion after an illness of several years. Dr. Brown was graduated from Creighton University School of Medicine, Omaha, Neb., in 1915. He was a life member of the Wright County and Iowa State Medical Societies.

Crane, Wendell P., aged 43, of Holstein died of poliomyelitis October 17. He was graduated from the University of Iowa College of Medicine in 1929. Dr. Crane practiced in Holstein his entire life. He was a member of the Ida County and Iowa State Medical Societies.

Jones, Thomas Samuel, aged 73, of Waukeez, died October 25 following a heart attack. Dr. Jones, who was born in Wales, was graduated from Drake University College of Medicine in 1913. He practiced medicine in Waukeez for 35 years.

Michel, Bernard A, aged 88, died November 5 of chronic myocarditis. Dr. Michel, a lifetime resident of Dubuque, was graduated from the University of Pennsylvania School of Medicine in 1889. He was a life member of the Dubuque County and Iowa State Medical Societies and a member of the American College of Surgeons.

Spaulding, Homer Lawrence, aged 84, died October 23 at his home in Ankeny following a two year illness. He was graduated from the George Washington University School of Medicine, Washington, D. C., in 1895. Dr. Spaulding was a life member of the Polk County and Iowa State Medical Societies.

BLUE CROSS TWO-PERSON CONTRACT

The new Blue Cross two-person contract is being well received by members.

Blue Cross added the two-person contract when changes were made July 1, 1948. At that time the family rate was increased to more than twice the individual rate and it was deemed advisable to add this new contract which covers a husband and wife or a parent and only child and does not include obstetric care. The rate is twice the single rate.

A change from the family contract to a two-person contract can be made at any time. The new contract will be made effective when a new, signed application card has been approved by Hospital Service, Inc., of Iowa.

The Blue Shield Plan has had a two-person contract from the beginning. The cost of the Blue Shield family contract has always been more than twice the individual rate.

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